



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

Directorate of Industrial Training



**Assessment and Training
Package
For a
CEREAL FARMER**

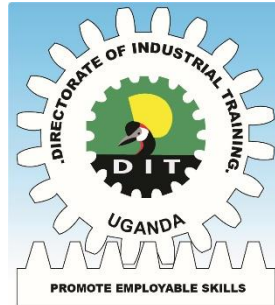
Qualification Level: 1

Occupational Cluster: Agriculture

September 2020

Developed by:

**Qualifications Standards Department
Directorate of Industrial Training**



Assessment and Training Package

**For a
CEREAL FARMER**

**Qualification Level: 1
Occupational Cluster: Agriculture**

Directorate of Industrial Training
Plot 97/99 Jinja Road/ Corner 3rd Street,
P.O Box 20050, Lugogo, Kampala, Uganda
Tel: +256 414 253 704; +256 312 279 344
E-mail: uvqf.dit@gmail.com
Web: www.dituganda.org

© Directorate of Industrial Training
2021

ISBN: 978-9913-9850-8-6

ISO: 9001:2015 Certificate No.: UG92580A

All rights reserved. No reproduction or copy transmission of this publication may be made without written permission or in accordance with the provisions of the Copyright, Designs and Patents Act or under the terms of licence permitting limited copying issued by the licencing agency in Uganda. Any person who does any unauthorised act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

Under BTVET Act, 2008, the functions of the Directorate of Industrial Training are:

- (a) To identify the needs of the labour market for occupational competencies that fall under the UVQF.
- (b) To regulate apprenticeship schemes.
- (c) To foster and promote entrepreneurial values and skills, as an integral part of the UVQF.
- (d) To secure adequate and sustainable financing for the efficient operations of the Directorate.
- (e) To accredit training institutions or companies as assessment centres.
- (f) To determine fees payable under the Act.
- (g) To develop, apply, expand and improve the purposeful application of Uganda vocational qualifications defined in the UVQF.
- (h) To assess and award Uganda Vocational Qualifications.
- (i) To promote on-the-job training in industry for apprenticeship, traineeship and indenture training and for other training such as further skills training and upgrading.
- (j) To prescribe the procedure for the making of training schemes.

Further to the above provisions, there is an established Uganda Vocational Qualifications Framework (UVQF), under part V of the BTVET Act, 2008. It is stated that:

The purpose of the UVQF is to;

- (a) Define occupational standards in the world of work.
- (b) Define assessment standards.
- (c) Award vocational qualifications of learners who meet the set standards of different studies.
- (d) Provide guidelines for modular training.

The UVQF shall follow principles of Competence Based Education and Training (CBET) which include:

- (a) Flexible training or learning modules.
- (b) Positive assessment and Certification.
- (c) Assessment of Prior Learning.
- (d) Recognition of formal and non-formal training.
- (e) Self-paced or individual learning.
- (f) Work place learning.

For award and recognition of certificates, the BTVET Act, 2008 provides that:

- (1) The Directorate and other examination boards established under the Act shall award certificates and diplomas for Business, Technical or Vocational Education and Training under the UVQF.
- (2) The Certificates and Diplomas to be awarded shall be in the form prescribed by the Minister on the recommendation of the Industrial Training Council.
- (3) The Certificates and Diplomas awarded under the Act shall be recognised in the Uganda education system and by the labour market.

Under the TVET Implementation Standards 2020, the proposed new mandate of the Directorate of Industrial Training shall be restricted to promoting the highest standards in the quality and efficiency of industrial training in the country and ensuring an adequate supply of properly trained manpower at all levels in the industry and the world of work.

The functions shall include:

- (a) Regulating Industrial Training and Trainers.
- (b) Developing Industrial Training Curricula.
- (c) Harmonising Curricula and Certificates of competence.
- (d) Assessing Industrial Training.
- (e) Development of Occupational Standards and Assessment and Training Packages (ATPs) for Trade Testing for the industry and world of work.
- (f) Awarding certificates in that respect.

At operational level in the Directorate, the Qualification Standards Department performs development tasks related to concepts, procedures and instruments for establishment of the UVQF in close collaboration with both public and private stakeholders in vocational training.

In particular, the Department organises and coordinates the development of Assessment and Training Packages for use in competence-based vocational training as well as standards-based assessment and certification.

The Directorate has therefore produced this Assessment and Training Package for use in implementing Competence-Based Education and Training mechanisms.

Table of contents

Word from Permanent Secretary	iv
Executive summary	vi
Acknowledgement	viii
Abbreviations and acronyms.....	ix
Key definitions.....	x
1.0 ATP - PART I	1
Occupational Profile for Cereal Farmer.....	1
2.0 ATP - PART II	8
Training Modules for Cereal Farmer	8
3.0 ATP - PART III	25
Assessment Instruments for Cereal Farmer	25
Written Test Items (Samples)	27
Performance Test Items (Samples).....	40
4.0 ATP - PART IV	31
Information on Review Process	31

Word from Permanent Secretary

The Kajubi Report (1989) and the Uganda Government White Paper on Education Review (1992) emphasised that the Uganda Secondary School Education should be vocationalised.

The World Bank Report on education in Uganda 2007 observed that although Uganda was experiencing steady economic growth on one hand, the secondary education curriculum was inadequately addressing the social and economic needs of the country on the other. The Report further noted that it is not the very top academic cadres that contribute most to the growth of the GDP but rather the competent middle level technicians that are flexible and technologically literate that the economy needs in the labour market at all levels.

Correspondingly, the NDP III 2020/21- 2024/5 highlights (i) low labour productivity (ii) high youth unemployment (38%) (iii) low transition rates from training to employment (35%) as some of the key challenges to Human Capital Development in Uganda.

In order to overcome these challenges, NDP III 2020/21- 2024/5, under objective 2 peaks the need to train the learners for the urgently needed skills and mainstream a dual education and training system. This paved way for the development of the lower secondary school vocational curriculum which supports both academic and vocational training.

The afore is in line with the Uganda Vision 2040. Under section 261, it emphasises that learners will be accorded opportunities to excel in the skills areas they are placed into. These will range from sports and cut to technical and vocational training. Hitherto, section 262 clearly states that the entire education system will be changed to emphasise practical skills, attitude and moral values.

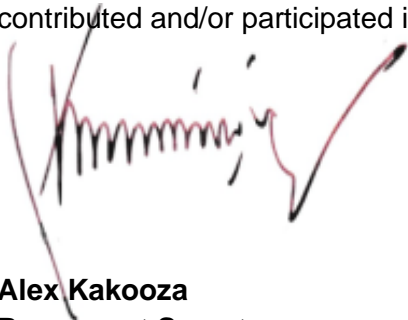
Government of Uganda through the Ministry of Education and Sports rolled out the New Lower Secondary Curriculum in secondary schools countrywide during the first term of the academic year 2020. The overall goal of this curriculum is to produce graduates with employable skills and who are competitive in the labour market. It should be emphasised that vocational training will produce graduates who are employable. In the New curriculum, emphasis will be on equipping learners with employable skills and competencies. This will enable learners perform the requisite duties of the specified occupations. This is the reason why the lower secondary school vocational curriculum was tailored to the assessment requirements of the world of work.

Reading from the Curriculum Framework page 12, it is stated that the learners will be assessed by DIT. Upon assessment and certification, the graduates will be employable and competitive in the labour market. It's against this background that DIT, within its mandate vested in the BTVET Act, 2008 comes on board to take the lead in the development of the requisite Assessment and Training Packages (ATPs) for the various occupations that will be assessed under the Lower Secondary Curriculum.

The ATPs can be used by any training provider and/or those who wish to present themselves for Occupational Assessment and Certification.

Herewith, the Directorate of Industrial Training presents the Assessment and Training Package for training, assessment and certification of a **CEREAL FARMER LEVEL 1**.

Finally, I thank all individuals, organisations and development partners who have contributed and/or participated in the development of this noble document.



Alex Kakooza
Permanent Secretary

Executive summary

This Assessment and Training Package is a Competence-Based Education and Training (CBET) tool and consists of three major parts:

- 0.1 **PART I: The Occupational Profile (OP) of a CEREAL FARMER.** This Occupational Profile which was reviewed by Cereal Farmers practicing in the world of work mirrors the duties and tasks that Cereal Farmers are expected to perform.
- 0.2 **PART II: Training Modules** in the form of guidelines to train Cereal Farmers both on the job as well as in training centres (or combinations of both venues of learning). The Training Modules herein have been reviewed basing on the Occupational Profile and hence are directly relevant for employment.
- 0.3 **PART III: Assessment Instruments** in the form of performance (Practical) and written (theory) test items that can and should be used to assess whether a person complies with the requirements of employment as a CEREAL FARMER. These assessment instruments were reviewed jointly by job practitioners (Cereal Farmers) and instructors based on the occupational profile and training modules.
- 0.4 While the Occupational Profile (OP) contained in PART I of this document provides the information on **WHAT a person is expected to do** competently in the world of work, the test items, - including performance criteria- of PART III qualify the **HOW and/or HOW WELL a person must do the job.**
- 0.5 The modular format of the curriculum (PART II) allows learners to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration allowing flexibility for learners to move directly into an entry level job, go for further modules or advance to higher levels of training. Modular courses allow more learners to access the training system because training centres as well as companies can accommodate more learners in a given period of time.
- 0.6 In addition to improved access, equity and relevance of BTVET, the UVQF will also enable people who are convinced to have acquired competencies laid down in this ATP through prior training and on-the-job experience to access assessment and certification directly; be it on the basis of a single module, a group of modules or all modules pertaining to the occupation at once. This achievement will facilitate Recognition of Prior Learning (RPL).

0.7 The parts of this Assessment and Training Package were sequentially reviewed as follows:

- i Part 1: Occupational Profile: **August 2020**
- ii Part 2: Training Modules: **August 2020**
- iii Part 3: Assessment Instruments (initial bank): **August 2020**

This ATP (or parts of it) may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

DIT takes responsibility of any shortcomings that might be identified in this publication and welcomes suggestions for effectively addressing the inadequacies. The suggestion can be communicated to DIT through P.O. Box 20050, Kampala or through email uvaf.dit@gmail.com.



Patrick Byakatonda
Ag Director

Acknowledgement

The Qualifications Standards Department of DIT acknowledges the valuable contributions to the review of this Assessment and Training Package by the following persons, Institutions and organisations:

- Members of the DIT Industrial Training Council;
- The Director and staff of DIT;
- Ministry of Education and Sports;
- The practitioners from the world of work;
- Teachers and instructors of cereal farming from various secondary schools;
- Agriculture Curriculum Specialists from NCDC;
- Examination specialists from UNEB;
- The facilitators involved in guiding the development panels in their activities;
- The Government of Uganda for financing the development of this ATP.

Abbreviations and Acronyms

A&C	Assessment and Certification
ATP	Assessment and Training Packages
CBET	Competency Based Education and Training
DIT	Directorate of Industrial Training
ITC	Industrial Training Council
GoU	Government of Uganda
LWA	Learning-Working Assignment
MC	Modular Curriculum
MoES	Ministry of Education and Sports
OP	Occupational Profile
PEX	Practical Exercise
PTI	Performance (Practical) Test Item
QS	Qualification Standards
RPL	Recognition of Prior Learning
TIB	Test Item Bank
TVET	Technical, Vocational, Education and Training
UVQ	Uganda Vocational Qualification
UVQF	Uganda Vocational Qualifications Framework
WTI	Written (Theory) Test Item

Key definitions

Assessment	Assessment is the means by which evidence is gathered and judged to decide if an individual has met the stipulated assessment standards or not. Testing is a form of formal assessment.
Certification	Certification is a formal procedure to issue a certificate (qualification) to an individual that has demonstrated during formal assessment that he/she is competent to perform the tasks specified in the occupational profile.
Competence	Integration of skills, knowledge, attitudes, attributes and expertise in performing tasks in the world of work to a set standard.
Competency	(Occupational) competency is understood as the ability to perform tasks common to an occupation to a set standard.
CBET	Competence-Based Education and Training means that programmes: <ol style="list-style-type: none">1. have content directly related to work2. focus is on 'doing something well'3. assessment is based upon industry work standards, and4. curricula are developed in modular form
Duty	A Duty describes a large area of work in performance terms. A duty serves as a title for a cluster of related Tasks (see also: TASK).
Learning-Working Assignment (LWA)	LWA are simulated or real job situations / assignments that are suitable for learning in a training environment (e.g. "small projects"). In a working environment LWAs are real work situations /assignments.
Modules	Modules are part(s) of a curriculum. Modules can be considered as "self-contained" partial qualifications which are described by learning outcomes or competencies and which can be assessed and certified individually.

Occupational Profile (OP)

An Occupational Profile is an overview of the duties and tasks a job incumbent is expected to perform competently in employment.

Occupational Profiles developed by practitioners from the world of work enhance the relevance of training and learning to the requirements of the world of work.

Occupational Profiles define what a person is supposed to do in performance terms. It also contains generic information regarding related knowledge and skills, attitudes/behaviour, tools, materials and equipment required to perform as well as trends/ concerns in the occupation.

Occupational profiles are the reference points for developing modular curricular and assessment standards.

Task

Job tasks represent the smallest unit of job activities with a meaningful outcome. Tasks result in a product, service, or decision. They represent an assignable unit of work and have a definite beginning and ending point. Tasks can be observed and measured. (Also see: Duty)

1.0 ATP-PART I

Occupational Profile for a CEREAL FARMER

- 1.1 The OCCUPATIONAL PROFILE (OP) for a “Cereal Farmer” below defines the **Duties** and **Tasks** a competent Cereal Farmer is expected to perform in the world of work (on the job) in Uganda and the East African region today.
- 1.2 Since it reflects the skill requirements of work life, the Occupational Profile is the reference document for the subsequent development of training modules and assessment instruments (test items) which are directly relevant to employment in Ugandan and the East African businesses and industries.
- 1.3 To ensure that the Occupational Profile is relevant for employment in Uganda and East Africa, the DIT used the method of “occupational/job profiling.

This approach involves the brainstorming of a panel of 8 to 12 competent job practitioners guided by trained and experienced facilitators. During a two-day workshop the panellists define the duties and tasks performed in employment, as well as the prerequisite skills, knowledge, attitudes, tools and equipment, and the future trends and concerns in the occupation/job.

- 1.4 The panellists, facilitators and coordinators who participated in developing this Occupational Profile are listed on the following page.

¹ The DACUM-method was used. DACUM is an acronym for ‘Develop a Curriculum’

Expert Panel

Siima Sheilla Baitwabusa Annette
Ministry of Education and Sports

Namara Hope

National Curriculum Development
Centre (NCDC)

Kategere Charles

Agricultural Extension Worker
(EADEN) Uganda

Mpawulo Joel

SAW-AEW- Iganga

Masiko Simon

Farmer

Kyeepa Bosco

Bugaya Area Marketing Cooperative
Enterprises

Asikuku Mary

St. Mark schools, Kayunga

Tadare Desmond

Farmer Mubuku Irrigation Scheme

Alia Rosemary

Akalo S.S

Boron Juma

St. Maria Goretti Girl's SS-Fortportal

Bbuye Patrick

Bex Hill High School -Kamutuuza

Kabasa Nasan

International fertiliser Development
Center (IFDC)

Sekamwa Abdullah

Uganda National Examinations Board
(UNEB)

Facilitators

Muwanguzi Willy

Directorate of Industrial Training

Atai Sarah

Directorate of Industrial Training

Co-ordinator

Elizabeth Ruth Mukyala

Directorate of Industrial Training

Funded by

Government of Uganda



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

Directorate of Industrial Training

Occupational Profile
For a
"CEREAL FARMER"

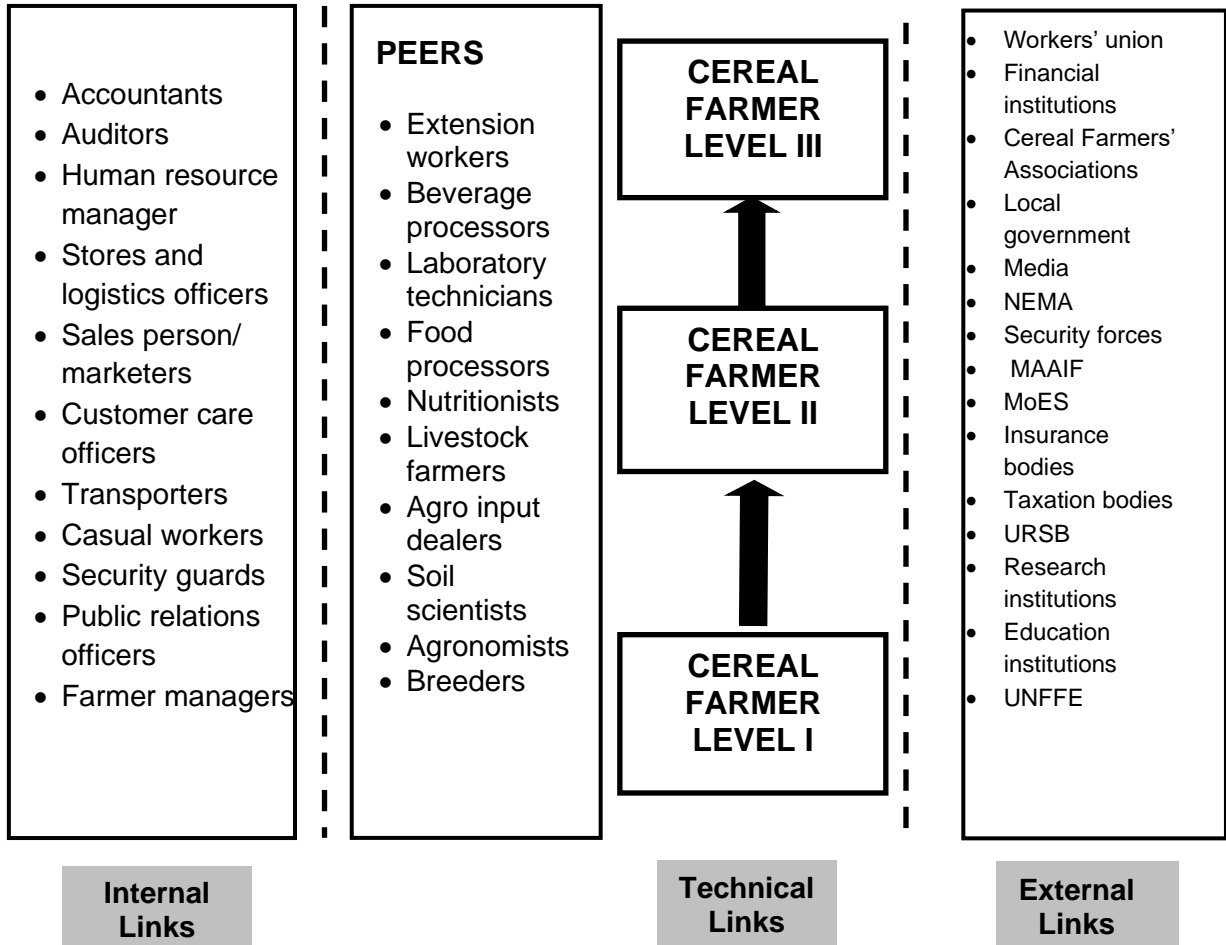
Reviewed by: Directorate of Industrial Training
(Qualifications Standards)

Dates of workshop: 1st – 11th September 2020

NOMENCLATURE FOR THE OCCUPATION OF CEREAL FARMER

Definition: A Cereal Farmer is a person who grows cereals for commercial purposes.

JOB ORGANISATION CHART FOR A CEREAL FARMER



UVQ Level I Cereal Farmer; Is a person who uses basic technology to perform all field operations and depends entirely on natural seasons to plant cereals for commercial purposes.

UVQ Level II Cereal Farmer; Is a person who uses mechanised and irrigation technology to perform all field operations to produce cereals for commercial purposes.

UVQ Level III Cereal Farmer; Is a person who uses advanced technology to produce and breed cereal seeds for commercial purposes.

Duties and Tasks

A. PLAN CEREAL FARMING ACTIVITIES	A1. Carryout feasibility study	A2. Determine farm location	A3. Prepare crop Calendar
	A4. Determine site structural plan	A5. Determine factor inputs	A.6 Determine water source
	A7. Determine Cereal variety to grow	A8 Prepare work schedules	A9. Prepare procurement plan for inputs
	A10. Determine production methods		

B. ESTABLISH A CEREAL GARDEN	B1 Select site	B2 Clear land	B3. Establish garden measurements
	B4 Test soil	B5 Plough land	B6 Sort seeds
	B7 Conduct germination tests	B8 Treat seeds	B9 Establish germination bed
	B10 Plant seeds	B12 Plant seedlings	B13 Apply fertilisers

C. MANAGE CEREAL GARDEN	C1 Inspect garden	C2 Thin crop	C3 Gap fill
	C4 Weed crop	C5 Control pests and diseases	C6 Conserve soil and water
	C7 Irrigate crop		

D. CONSTRUCT FARM STRUCTURES	D1 Construct fence	D2 Construct store	D3 Construct water reservoirs
	D4 Make pallets	D5 Construct drying yards	D6 Construct farm house
	D7 Construct farm roads		

E. PERFORM HARVEST AND POST HARVEST HANDLING	E1 Harvest crops	E2 Dry crop	E3 Thresh crop
	E4 Winnow grain	E5 Test moisture content	E6 Sort grain
	E7 Grade grains	E9 Pack grains	E10 Weigh grains
	E11 Regulate storage conditions	E12 Store grains	

F. MARKET CEREAL PRODUCE	F1 Conduct market research	F2 Bulk produce	F3 Brand products
	F4 Package products	F5 Label products	F6 Price products
	F7 Standardise products	F8 Promote products	F9 Transport products
	F10 Sell products		

G. PERFORM OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION PRACTICES	G1 Wear protective equipment	G2 Manage waste	G3 Observe OHSE regulations
	G4 Perform fire Fighting	G5 Administer first aid	G6 Observe hygiene and sanitation
	G7 Display safety signs	G8 Sensitise co-workers on key health issues	

H. PERFORM ADMINISTRATIVE TASKS	H1 Pay bills	H2 Procure farm inputs	H3 Keep records
	H4 Attend meetings	H5 Manage human resources	H6 Perform Bench marking
	H7 Communicate with stake holders	H8 Manage finances	H9 Network with peers and other stakeholders
	H10 Procure farm inputs	H11 Formalise business	

Additional Information

Generic Knowledge & Skills

- | | |
|--|------------------------------------|
| 1. Literacy | 19. Cereal agronomy |
| 2. Numeracy | 20. Firefighting |
| 3. Tools and equipment usage | 21. Store management |
| 4. Negotiation skills | 22. Cereal crop calendar |
| 5. Records keeping | 23. Human resource management |
| 6. Analytical skills | 24. Entrepreneurship skills |
| 7. Measurement | 25. Interpersonal relations |
| 8. Pests and diseases and their control measures | 26. Customer care |
| 9. Chemical preparation | 27. Training skills |
| 10. Herbicides and pesticides handling | 28. Problem solving skills |
| 11. Seed selection | 29. Safety, health and environment |
| 12. Soil and water management | 30. Public relations |
| 13. Fertilisers and their application | 31. Planning skills |
| 14. Marketing skills | 32. Financial management |
| 15. First aid administration | |
| 16. Waste management | |
| 17. Communication skills | |
| 18. Information and communication technology | |

Tools, Equipment and Materials

- | | |
|-----------------------|-----------------------|
| 1. Pangas | 22. Computer |
| 2. Hoes | 23. Telephone |
| 3. Slashes | 24. Sharpening File |
| 4. Axe | 25. Shovels |
| 5. Knife | 26. Pegs |
| 6. Sickle | 27. Grease gun |
| 7. Tape measure | 28. Winnowers |
| 8. Ropes/strings | 29. Masks |
| 9. Gum boots | 30. Screws |
| 10. Gloves | 31. Spanners |
| 11. Overalls | 32. Yoke |
| 12. Helmets | 33. Watering cans |
| 13. Knapsack sprayers | 34. Wire strainer |
| 14. Gunny bags | 35. Racks |
| 15. Mattock | 36. Soil sampling kit |
| 16. Ploughs | 37. Hammer |
| 17. Wheelbarrows | 38. Timber |
| 18. Buckets | |
| 19. Weighing scale | |
| 20. Rakes | |
| 21. Spades | |

Attitudes/Traits/Behaviour

- | | |
|---------------------|--------------------------------|
| 1. Self-motivated | 39. Responsible |
| 2. Time management | 40. Physically fit |
| 3. Patient | 41. Knowledgeable |
| 4. Observant | 42. Polite |
| 5. Trustworthy | 43. Social |
| 6. Honest | 44. Resilient |
| 7. Tolerant | 45. Good hand-eye coordination |
| 8. Hard working | 46. Respectful |
| 9. Customer care | 47. Intelligent |
| 10. Disciplined | 48. Trainable |
| 11. Committed | 49. Cooperative |
| 12. Good listener | 50. Creative |
| 13. Flexible | 51. Sharing skills |
| 14. Result oriented | 52. Has an eye for detail |
| 15. Curious | |
| 16. Competitive | |
| 17. Innovative | |

Future Trends and Concerns

- | | |
|---|---|
| 1. Mechanisation of all farm operations. | 10. Pests and diseases out breaks |
| 2. Value addition at the farm before marketing. | 11. Climate change |
| 3. Inadequate networking with peers. | 12. Price fluctuations |
| 4. Formation of cereal farmers 'associations. | 13. Land shortage. |
| 6. Computer literacy. | 14. Land conflicts. |
| 7. Benchmarking with others in other countries. | 15. Land fragmentation. |
| | 16. Land tenure |
| | 17. Government policies |
| | 18. Regional and international markets. |
| | 19. Hydroponic production systems |
| | 20. Market competition |
| | 21. Infrastructure development |
| | 22. Political instabilities |
| | 23. Marketing using ICT |

2.0 ATP-PART II

Training Modules for a CEREAL FARMER

- 2.1 A curriculum is a “guide / plan for teaching and learning” which provides a guide to teachers, instructors and learners. In the envisaged system of competence-based or outcome-oriented education and training (CBET), Curricula are no longer the benchmark against which assessment is conducted. It is rather the Occupational Profile and the related Test Items that provide the benchmark for assessment as well as for Curriculum development.
- 2.2 This modular format of the curriculum allows learners of Cereal Farmer Occupation to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration allowing learners to move directly into an entry level job, do further modules and advance to higher levels of training. Modular courses allow more learners to access the training system because training centres as well as companies can accommodate more students in a given period of time.
- 2.3 The modules were developed jointly by both instructors from training centres and job practitioners. They were developed using the Occupational Profile as a reference point and taking into account the specifications of training and learning outcomes in the form of Test Items described in Part II.
- 2.4 The modules contain “Learning-Working Assignments” (LWAs) and related “Practical Exercises” (PEXs) as key elements.
- LWAs are simulated or real job situations / assignments that are suitable for learning in a training environment (e.g. “small projects”). In a working environment, LWAs are real work situations.
- PEXs are therefore sub-sets of a LWA.
- 2.5 In principle, and following the philosophy of Competence-Based Education and Training (CBET), the modules can be used as a guide for learning in a training centre or at the work place; or combinations of both.

WHO IS A CEREAL FARMER QUALIFICATION LEVEL 1

A **Cereal Farmer Level I** Is a person who uses basic technology to perform all field operations and depends entirely on natural seasons to plant cereals for commercial purposes.

TRAINING MODULES FOR A CEREAL FARMER UVQ LEVEL 1

Code	Module Title	Average duration	
		Contact hours	Weeks
UE/CF/M1.1	Establish a Cereal Garden	160	4
UE/CF/M1.2	Manage a Cereal Garden	200	5
UE/CF/M1.3	Perform Harvest and Post-Harvest Handling	120	3
UE/CF/M1.4	Establish a Cereal Farm Enterprise	160	4
Summary	4 Training modules	640 hours	16 weeks

Note: Average duration is contact time but NOT calendar duration

It is assumed that:

- 1 day is equivalent to 8 hours of nominal learning and
- 1 month is equivalent to 160 hours of nominal learning.

Information given on the average duration of training should be understood as a guideline. Quick learners may need less time than indicated or vice versa.

At completion of a module, the learner should be able to satisfactorily perform the included Learning Working Assignments, their practical exercises and attached theoretical instruction, as the minimum exposure.

Prior to summative assessment by recognised agencies, the users of these Module Guides are encouraged to carefully consider continuous assessment using samples of (or similar) performance (practical) and written test items available in part 3 of this ATP.

Code	UE/CF/M1.3
Module title	M1.1: Establish a Cereal Garden
Related Qualification	Part of: Uganda Vocational Qualification (CEREAL FARMER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to establish a cereal garden.
Learning-Working Assignments (LWAs)	<p>LWA 1/1: Prepare Land LWA 1/2: Prepare Seeds LWA 1/3: Plant Seeds LWA 1/4: Perform Occupational Health, Safety and Environmental Protection Practices</p> <p>Note:</p> <ol style="list-style-type: none"> 1. The learning exercises must be repeated until the trainee acquires a targeted competence. 2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.
Related Practical Exercises (PEXs)	<p>LWA 1/1: Prepare Land Form PEX 1.1: Select site PEX 1.2: Clear land PEX 1.3: Measure land PEX 1.4: Test soil PEX 1.5: Plough land</p>
	<p>LWA 1/2: Prepare Seeds PEX 2.1: Select seeds PEX 2.2: Sort seeds PEX 2.3: Test seed germinability PEX 2.4: Treat seeds</p>
	<p>LWA 1/3: Perform Planting PEX 3.1: Dig holes PEX 3.2: Place fertilisers PEX 3.3: Plant seeds PEX 3.4: Transplant rice seedlings</p>

	<p>LWA 1/4: Perform Occupational Health, Safety and Environmental Protection Practices</p> <p>PEX 4.1: Wear protective gear PEX 4.2: Administer first aid PEX 4.3: Observe hygiene and sanitation PEX 4.4: Manage waste PEX 4.5: Perform firefighting</p>
Occupational health and safety	Precautions, rules and regulations on occupational health, safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs.
Pre-requisite modules	None
Related knowledge/ theory	<p><i>For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Soil sterilisation • Types of fertilisers • Propagation methods of cereals • Fertiliser application techniques • Pests and disease control measures • Seed technology • Tools and equipment usage • Planting methods • Health, safety and environmental protection practices
Average duration of learning	<p>160 hours (20 days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> • 5 days of occupational theory and • 15 days of occupational practice
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided that all equipment and materials required for this module training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.

Minimum required tools/ equipment/ implements or equivalent	pangas, hoes, slashers, axe, tape measure, gumboots, overalls, gloves, spray pump, ploughs, wheelbarrow, rake, spade, garden trowel, hammer, watering can, saw, soil auger.
Minimum required materials and consumables or equivalent	water, seed treatment chemicals, nails, seeds, soil testing kits, strings, pegs, fertilisers
Special notes	

Code	UE/CF/M1.2
Module title	M1.2: Manage a Cereal Garden
Related Qualification	<u>Part of:</u> Uganda Vocational Qualification (CEREAL FARMER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to manage a cereal garden
Learning-Working Assignments (LWAs)	<p>LWA 2/1: Maintain Garden LWA 2/2: Control Pests and Diseases LWA 2/3: Conserve soil and water LWA 2/4: Manage Tools and Equipment LWA2/5: Perform Occupational Health, Safety and Environmental Protection</p> <p>Note:</p> <ol style="list-style-type: none"> 1. <i>The learning exercises may be repeated until the trainee acquires targeted competence;</i> 2. <i>The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.</i>
Related Practical Exercises (PEXs)	<p>LWA 2/1: Maintain Garden PEX1.1: Weed garden PEX1.2: Perform gap filling PEX1.3: Perform thinning PEX1.4: Apply fertilisers</p>
	<p>LWA 2/2: Control Pests and Diseases PEX 2.1: Scout garden PEX 2.2: Identify control method PEX 2.3: Select tools, equipment and materials PEX 2.4: Apply control methods PEX 2.5: Disinfect tools and equipment</p>
	<p>LWA 2/3: Conserve Soil and Water PEX 3.1: Construct drainage channels PEX 3.2: Construct bunds PEX 3.3: Construct contour banks PEX 3.4: Carryout minimum untilage PEX 3.5: Irrigate crops PEX 3.6: Harvest water</p>

	<p>PEX3.7: Construct gabions PEX 3.8: Construct barrages</p> <hr/> <p>LWA 2/4: Manage Tools and Equipment PEX 4.1: Clean tools and equipment PEX 4.2: Replace wornout parts PEX 4.3: Lubricate tools and equipment PEX 4.4: Adjust tools and equipment PEX 4.5: Sterilise tools and equipment PEX 4.6: Paint tools and equipment PEX 4.7: Store tools and equipment</p> <hr/> <p>LWA 2/5: Perform Occupational Health, Safety and Environmental Protection Practices PEX 5.1: Manage waste PEX 5.2: Observe OHSE precautions PEX 5.3: Wear personnel protective gear PEX 5.4: Comply with OHSE regulations and policies PEX 5.5: Perform firefighting PEX 5.6: Administer first aid PEX 5.7: Maintain cereal genetic diversity</p>
Occupational health and safety	Precautions, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs.
Pre-requisite modules	None
Related knowledge/ theory	<p><i>For Occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate.</i></p> <ul style="list-style-type: none"> • Soil and water conservation methods • Water harvesting • Irrigation methods • Pest and disease control methods • Weed control methods • Waste management • Fertiliser types and application • Cereal agronomic practices • Safe handling of chemicals • Tools and equipment maintenance • Occupational health, safety and environmental protection practices

Average duration of learning	200 hours (25 days) of nominal learning suggested to include: <ul style="list-style-type: none"> • 5 days of occupational theory and • 20 days of occupational practice
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided that all equipment and materials required for this module training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related written test items from item bank
Minimum required tools/ equipment/ implements or equivalent	panga, hoe, knapsack sprayer, measuring cylinder, jerrycans, watering can, sickle, slasher, gumboots, overall, helmet, weighing scale, storage facility, painting brushes, greasing gun, wheelbrow
Minimum required materials and consumables or equivalent	water, agro-chemicals, lubricants, paint, masks, gloves
Special notes	

Code	UE/CF/M1.3
Module title	M1.3: Perform Harvest and Post-Harvest Handling
Related Qualification	<u>Part of:</u> Uganda Vocational Qualification (CEREAL FARMER UVQ1)
Qualification Level	1
Module purpose	After completing this module, a trainee shall be able to harvest cereals and practice post-harvest handling.
Learning-Working Assignments (LWAs)	<p>LWA 3/1: Prepare Tools and Equipment</p> <p>LWA 3/2: Harvest Cereal Crop</p> <p>LWA 3/3: Perform Post-Harvest Handling</p> <p>LWA 3/4: Perform Occupational Health, Safety And Environment Protection Practices</p> <p>Note:</p> <ol style="list-style-type: none"> 1. <i>The learning exercises may be repeated until the trainee acquires targeted competence;</i> 2. <i>The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment</i>
Related Practical Exercises (PEXs)	<p>LWA 3/1: Prepare Tools and Equipment</p> <p>PEX 1.1: Procure tools and equipment</p> <p>PEX 1.2: Assemble tools and equipment</p> <p>PEX 1.3: Clean tools and equipment</p> <p>PEX 1.4: Disinfect tools and equipment</p> <p>PEX 1.4: Sharpen tools</p> <hr/> <p>LWA 3/2: Harvest Cereal</p> <p>PEX 2.1: Identify mature crops</p> <p>PEX 2.2: Cut/ pluck mature crops</p> <p>PEX 2.3: Bulk produce</p> <p>PEX 2.4: Weigh produce</p> <p>PEX 2.5: Bag produce</p> <p>PEX 2.6: Transport produce</p> <hr/> <p>LWA 3/3: Perform Post-Harvest Handling</p> <p>PEX 3.1: Clean store</p> <p>PEX 3.2: Fumigate store</p> <p>PEX 3.3: Regulate storage conditions</p> <p>PEX 3.4: Dry produce</p>

	<p>PEX 3.5: Thresh produce PEX 3.6: Winnow produce PEX 3.7: Test moisture content PEX 3.8: Sort produce PEX 3.9: Grade produce PEX 3.10: Dress grain PEX 3.11: Pack grain PEX 3.12: Control storage pests</p> <p>LWA 3/4: Perform Occupational Health, Safety and Environmental Protection</p> <p>PEX 4.1: Manage waste PEX 4.2: Wear personnel protective gear PEX 4.3: Perform fire fighting PEX 5.4: Administer first aid PEX 5.5: Observe OHSE precautions PEX 5.6: Comply with OHSE regulations PEX 5.7: Display safety signs PEX 5.8: Conduct safety training</p>
Occupational health and safety	Precautions, rules and regulations on occupational health, safety and environmental protection, included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs.
Pre-requisite modules	None
Related knowledge/ theory	<p><i>For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Harvesting technique • Moisture testing technique • Types of tools and equipment • Crop maturity identification • Fodder preparation • Silage preparation • Brewing
Average duration of learning	<p>120 hours (15 days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> • 5 days of occupational theory and • 10 days of occupational practice
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided that all equipment and materials required for this module training are in place.

Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	slasher, hoe, pangas, wheelbarrow, telephone, winnowers, threshers, pallets, weighing scales, strings, sickle, knife, gumboots, gloves, helmets, communication facilities, moisture metre, storage facility, thermometer, first aid kit, fire extinguisher, transport facility, drying yard, tarpaulin
Minimum required materials and consumables or equivalent	gunny bags, cereal produce, pesticides, fumigants
Special notes	

Code	UE/CF/M1.4
Module title	M1.4: Establish Cereal Farming Enterprise
Related Qualification	Part of Uganda Vocational Qualification (Légume Farmer UVQ 1)
Qualification Level	1
Module purpose	By the end of this module, a trainee shall be able to establish and manage a profitable cereal farming enterprise.
Learning-Working Assignments (LWAs)	<p>LWA 4/1: Plan a Cereal Farming Enterprise</p> <p>LWA 4/2: Market Cereal Products</p> <p>LWA 4/3: Perform Basic Administrative Tasks</p> <p>LWA 4/4: Perform Occupational Health Safety and Environmental Protection Practices</p> <p>Note:</p> <ol style="list-style-type: none"> 1. The learning exercises may be repeated until the trainee acquires targeted competence. 2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning assignment
Related Practical Exercises (PEXs)	<p>LWA 4/1: Plan a Cereal Farming Enterprise</p> <p>PEX 1.1: Conduct a feasibility study</p> <p>PEX 1.2: Select farm site</p> <p>PEX 1.3: Determine cereal variety</p> <p>PEX 1.4: Source for farm inputs</p> <p>PEX 1.5: Identify labour requirements</p> <p>PEX 1.6: Determine production methods</p> <p>PEX 1.7: Develop site structural plan</p> <p>PEX 1.8: Prepare financial plan</p> <p>PEX 1.9: Prepare budget</p> <p>PEX 1.10: Prepare procurement plan</p> <p>LWA 4/2: Market Cereal Produce and Products</p> <p>PEX 2.1 : Conduct market survey</p> <p>PEX 2.2: Brand cereal produce and products</p> <p>PEX 2.3: Package cereal produce and products</p> <p>PEX 2.4 Label cereal produce and products</p> <p>PEX 2.5 : Price cereal produce and products</p> <p>PEX 2.6 Promote cereal produce and products</p> <p>PEX 2.7 Distribute cereal produce and products</p> <p>PEX 2.8 Sell cereal produce and products</p>

	<p>PEX 2.9 Communicate with clients</p> <p>LWA 4/3: Perform Basic Administrative Tasks</p> <p>PEX 3.1: Manage finances PEX 3.2: Manage human resources PEX 3.3: Pay bills PEX 3.4: Formalise business PEX 3.5: Generate records PEX 3.6: Conduct meetings PEX 3.7: Network with stakeholders PEX 3.8: Pursue continuous professional development PEX 3.9: Comply with regulations and policies</p> <p>LWA 4/4 Perform Occupational Health, Safety and Environmental Protection Practices.</p> <p>PEX 4.1: Administer first aid PEX 4.2: Train other workers on health and safety issues PEX 4.3: Wear protective gear PEX 4.4: Observe health and safety regulations PEX 4.5: Manage waste PEX 4.6: Store tools and equipment PEX 4.7: Maintain hygiene and sanitation PEX 4.8: Practice firefighting PEX 4.9: Sensitise workers on occupational hazards</p>
Occupational health and safety	Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs.
Pre-requisite modules	None
Related knowledge/ theory	<p><i>For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Marketing techniques • Pricing techniques • Promotional techniques • Regulations and policies • Cereal preservation techniques • Record keeping • Market trends • Farm records management • Environmental protection practices • Computer literacy • Office practice • Communication skills • Financial literacy

Average duration of learning	160 hours (20 days) of nominal learning suggested to include: <ul style="list-style-type: none"> • 5 days of occupational theory and • 15 days of occupational practice
Suggestions on organisation of learning	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to the established regulations by a recognised assessment body using related practical and written test items from item bank
Minimum required tools/ equipment/ implements or equivalent	notice board, weighing equipment, ICT equipment, gumboots, fire extinguisher, sealing machine, first aid kit, transport facility, communication facility
Minimum required materials and consumables or equivalent	packaging materials, water, cleaning materials, cereal produce, chairs, tables, stationery, labels, brochures, leaflets
Special notes	

3.0 ATP-PART III

Assessment Instruments for a CEREAL FARMER

- 3.1 Assessment of occupational competence is the procedure by which evidence is gathered and judged to decide if an individual (candidate) has met the stipulated assessment standards or not. In this ATP the **standards** to assess occupational competences are reflected in the form of the Occupational Profile and related Test Items.
- 3.2 Assessment of occupational competence should comprise both practical (performance) testing and written (theory/knowledge) testing.
- 3.3 Based on the occupational profile, a combined panel of job practitioners and Instructors developed a substantial number of test items for assessing (practical) performance as well as items for assessing occupational knowledge (theory) all stored in an electronic Test Item Bank (TIB) at Directorate of Industrial Training.
- 3.4 Performance (Practical) Test Items (PTI) are closely related to typical work situations in Ugandan business and manufacturing enterprises. They comprise a test assignment for candidates and assessment criteria and/or scoring guides for assessors' use.
- 3.5 Written Test items (WTI) for written testing of occupational theory, (knowledge) are presented in different forms which include:
- Short answer test items.
 - Multiple choice test items and,
 - Matching test items, These WTIs herein focus on functional understanding as well as trouble-shooting typically synonymous with the world of work.
- 3.6 Composition of assessment / test papers will always require good choices of different types of WTI in order to ensure the assessment of relevant occupational knowledge required of candidates to exhibit competence.
- 3.7 The test items contained in the Test Item Bank may be used for continuous / formative assessment during the process of training as well as for summative assessment of candidates who have acquired their competences non-formally/or informally.
- 3.8 In this document, the following samples of test items for assessing both performance (practical) and occupational knowledge (theory) of a **CEREAL FARMER** are included:

3.9 Overview of test item samples included:

No	Type of test items	Numbers included
1	Written (theory) –short answer	3
2	Written (theory) - multiple choice	3
3	Written (theory) - matching with cause and effect	2
4	Written (theory) - matching with work sequences	2
5	Written (theory) - matching with generic	3
6	Performance (practical) test item	2
Total		15

WRITTEN TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 1			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer	✓		
	Multiple choice			
	Matching item	Generic	Cause effect	Work sequence
Complexity level:	C 2			
Date of OP:	September 2020			
Related modules:	M1.1			
Time allocation:	2 minutes			

Test Item	List any two management practices carried out in maintaining a rice germination bed.
Answer spaces	(i) (ii)
Expected answers	(i) Control pests and diseases (ii) Weeding the nursery (iii) Watering the nursery

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 2			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer	✓		
	Multiple choice			
	Matching item	Generic	Cause effect	Work sequence
Complexity level:	C 1			
Date of OP:	September 2020			
Related modules:	M1.1			
Time allocation:	3 minutes			

Test Item	List any three reasons why a cereal farmer should sample the soil before planting
Answer spaces	(i) (ii) (iii)
Expected answers	(i) To determine soil PH (ii) To determine soil fertility (iii) To determine water content of the soil (iv) To identify soil structure (v) Determine aeration of the soil

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 3			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer	✓		
	Multiple choice			
	Matching item	Generic	Cause effect	Work sequence
Complexity level:	C 2			
Date of OP:	September 2020			
Related modules:	M1.3			
Time allocation:	3 minutes			

Test Item	State any four activities carried-out by a farmer in post-harvest handling of cereals.
Answer spaces	(i) (ii) (iii) (iv)
Expected answers	(i) Dry produce (ii) Thresh produce (iii) Winnow produce (iv) Sort produce (v) Grade produce (vi) Bag produce (vii) Store produce

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 4			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	✓		
	Matching item	Generic	Cause effect	Work sequence
Complexity level:	C 1			
Date of OP:	September 2020			
Related modules:	M1.1			
Time allocation:	2 minutes			

Test Item	Which of the following activities is carried-out when establishing a cereal garden?
Distractors and correct answer	<ul style="list-style-type: none"> A. Weed crop B. Rogue crop C. Clear land D. Fill gaps

Key (answers)	C
----------------------	---

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 5			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	✓		
	Matching item	Generic	Cause effect	Work sequence
Complexity level:	C 2			
Date of OP:	September 2020			
Related modules:	M1.2			
Time allocation:	2 minutes			

Test Item is the primary objective of carrying-out thinning in a cereal garden.
Distractors and correct answer	<ul style="list-style-type: none"> A. Controlling weeds B. Reducing competition C. Controlling soil erosion D. Reducing water loss

Key (Answers)	B
---------------	---

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 6			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	✓		
	Matching item	Generic	Cause effect	Work sequence
Complexity level:	C 2			
Date of OP:	September 2020			
Related modules:	M1.2			
Time allocation:	2 minutes			

Test Item	Which of the following cereal crops requires a germination bed preparation before planting in the main garden?
Distractors and correct answer	<ul style="list-style-type: none"> A. Upland rice B. Paddy rice C. Wheat D. Millet

key (answers)	B
---------------	---

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 7			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause effect	Work sequence
		✓		
Complexity level:	C 2			
Date of OP:	September 2020			
Related modules:	M1.1, M1.2, M.3			
Time allocation:	3 minutes			

Test Item	Match the following farm structures with their uses in cereal production
------------------	--

Column A	
1	Maize crib
2	Fence
3	Drainage channel
4	Valley dam

Column B	
A	Dry grain
B	Protect cereal garden from animals and intruders
C	Store maize
D	Direct excess water away from the cereal garden
E	Store water
F	Bring water into the garden

Key(answer)	1:C,2:B,3:D,4:E.
--------------------	------------------

Test Item Database						
Written (Theory) Test Item- No. 8						
Occupational Title:	Cereal Farmer					
Competence level:	1					
Code no.						
Test Item type:	Short answer					
	Multiple choice					
	Matching item					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;">Generic</td> <td style="width: 25%; text-align: center;">Cause effect</td> <td style="width: 25%; text-align: center;">Work sequence</td> </tr> <tr> <td style="text-align: center;">✓</td> <td></td> <td></td> </tr> </table>	Generic	Cause effect	Work sequence	✓	
Generic	Cause effect	Work sequence				
✓						
Complexity level:	C 2					
Date of OP:	September 2020					
Related modules:	M1.2					
Time allocation:	3 minutes					

Test Item	Match the following tools and equipment with their use in a cereal garden
------------------	---

Column A	
1	Tape measure
2	Soil auger
3	Sprayer
4	Wheelbarrow

Column B	
A	Pick soil sample
B	Apply agro chemicals
C	Until garden
D	Carry manure
E	Determine spacing
F	Test soil

Key (answer)	1:E, 2:A, 3:B, 4:D
---------------------	--------------------

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 9			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause effect	Work sequence
		✓		
Complexity level:	C 2			
Date of OP:	September 2020			
Related modules:	M1.4			
Time allocation:	3 minutes			

Test Item	Match each marketing activity below with its respective purpose
------------------	---

Column A	
1	Promote cereal produce
2	Package cereal produce
3	Sell cereal produce
4	Market survey

Column B	
A	To project income
B	To obtain income
C	To identify customer needs
D	To deliver produce to customers
E	To induce purchases
F	For safe handling of the product

Key(answer)	1:E,2:F,3:B,4:C
--------------------	-----------------

DIT/QS	Test Item Database Written (Theory) Test Item- no. 10			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work- sequence
				√
Complexity level:	C 2			
Date of OP:	September 2020			
Related module:	M1.1			
Time allocation:	3 minutes			

Test Item	Arrange the following steps taken in establishing a barbed wire fence on a cereal garden in their chronological order
------------------	---

Column A (chronology)	Column B (work steps) in wrong chronological order	
1 st	A	Attach wires
2 nd	B	Measure land
3 rd	C	Fix gate
4 th	D	Clear land
5 th	E	Erect poles
6 th	F	Select site
7 th	G	Obtain tools, equipment and materials
8 th	H	Dig holes

Key (answer)	1-F, 2-G, 3-D, 4-B,5-H,6-E,7-A, 8-C.
---------------------	--------------------------------------

DIT/QS	Test Item Database Written (Theory) Test Item- no. 11			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause-Effect	Work-sequence
				√
Complexity level:	C 2			
Date of OP:	September 2020			
Related module:	M1.3			
Time allocation:	4 minutes			

Test Item	Arrange the practices carried-out in post-harvest handling of millet produce in their chronological order
------------------	---

Column A (chronology)	Column B (work steps) in wrong chronological order	
1 st	A	Thresh crop
2 nd	B	Dry grain
3 rd	C	Control storage pests
4 th	D	Pack grain
5 th	E	Sort grain
6 th	F	Winnow millet
7 th	G	Test moisture content
8 th	H	Store millet
9 th	I	Grade millet
10 th	J	Weigh produce

Key (answer)	1-B,2-A,3-F,4-E,5-G,6-I,7-D,8-J,9-H,10-C
---------------------	--

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 12			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- effect	Work sequence
			✓	
Complexity level:	C 2			
Date of OP:	September 2020			
Related modules:	M1.2			
Time allocation:	3 minutes			

Test Item	Match the following causes in column A to their effects in column B in germination bed establishment
------------------	--

Column A	
1	Too much shade
2	Too much water
3	Excess fertiliser
4	Old seeds

Column B	
A	Poor germination
B	Burnt seedlings
C	Etiolated seedlings
D	Rotten seeds
E	Hardened soil
F	Diseased seedlings

Key(answer)	1:C, 2:D, 3:B, 4:A
--------------------	--------------------

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 13			
Occupational Title:	Cereal Farmer			
Competence level:	1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause effect	Work sequence
			✓	
Complexity level:	C 2			
Date of OP:	September 2020			
Related modules:	M1.5			
Time allocation:	4 minutes			

Test Item	Match the following causes in column A with their effects in column B in post-harvest handling of cereal produce
------------------	--

Column A	
1	Incomplete drying
2	Bush around the store
3	Torn gunny bag
4	Dry on bare ground

Column B	
A	Delayed drying
B	Loss of grain
C	Seed rot
D	Contamination of grain
E	Rodent infestation
F	Hardened grain

Key(answer)	1-C,2-E,3-B,4-D
--------------------	-----------------

PERFORMANCE TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 14
Occupational Title:	Cereal Farmer
Competence level:	Level 1
Code no.	
Test Item:	Establish a paddy rice germination bed of 10mx1m
Complexity level:	P2
Date of OP:	September 2020
Related module:	M1.1
Related skills and knowledge:	<ul style="list-style-type: none"> • Soil preparation • Site selection • Shade construction and techniques • Tool usage • Fertiliser application techniques • Seed preparation • Type of fertiliser
Required tools, Materials and Equipment:	Tape measure, wheelbarrow, hoe, watering can, sickle/slasher, panga, strings/rope, fertiliser, seeds, rake, spade, pegs, poles, dry grass and gumboots, gloves, containers, overalls, soil testing kit
Time allocation:	6 hours
Preferred venue:	Garden
Remarks for candidates	<ul style="list-style-type: none"> • Wear personnel protective equipment
Remarks for assessors	<ul style="list-style-type: none"> • Provide necessary tools, equipment and materials

#	Assessment criteria	Scoring guide	Max Score	
			Process	Result
1	Preparation for establishing a germination bed	<u>Wore protective gear</u>		1
		Overall		1
		Gum boots		1
		Hand gloves		1
		Helmet		1
		Assembled tools, equipment and materials		2

2	Identification of germination bed site	Selected site in an open area		2
		Selected site near water source		3
		Drained soils selected		1
3	Preparation of germination bed	Slashed site		2
		Measured site	2	
		Right measurement of 10m x 1m verified		2
		Ploughed site	2	
		Deep ploughed bed at a depth of 15cm to 25cm verified		2
		Removed trash e.g. stones, dry grass	2	
		Fine bed with no trash observed		2
		Raised bed	2	
		Raised bed of 10cm to 15cm observed		1
		Sterilised soil	3	
		Applied fertilisers	2	
		Uniform application of fertiliser observed		2
		4	Preparation of seeds	Selected seeds
Healthy seeds selected				2
Soaked seeds	2			
Uniformly bulged seeds observed				2
5	Sowing of seeds	Broadcasted seeds	2	
		Seeds uniformly broadcasted observed		2
		Covered seeds with a thin layer of soil		2
		Mulched bed	2	
		Light mulch cover observed		2
6	Construction of shade	Dug holes	2	
		Holes at the corners and the sides of the bed observed		2
		Fixed poles	2	
		Firmly rammed poles observed		2
		Fixed rafters	2	
		Thatched bed	2	

		Rafters fully covered with thatch observed		2
		Labelled germination bed		1
7	Demobilization of resources	Collected and disposed waste	2	
		Dirt free environment observed		2
		Collected tools, equipment and materials	1	
		Cleaned tools and equipment	2	
		Dirt free tools and equipment observed		2
		Stored tools equipment and materials		2
		Removed protective gear		1
8	Documentation of activity	Recorded size of germination bed		1
		Recorded variety of rice		1
		Recorded date of establishment of germination bed		1
		Recorded type of fertiliser used		1
		Recorded location of germination bed		1
TOTAL			32	56
			88	

DIT/ QS	Test Item Database Performance Test Item- no. 15
Occupational Title:	Cereal Farmer
Competence level:	1
Code no.	
Test Item:	Prepare and spray 1/4 an acre of a maize garden against stalk borers
Performance level:	P.2
Date of OP:	September 2020
Related Module:	M1.4
Related skills and knowledge:	spraying skills, mixing of chemicals, spraying schedule, spraying method, signs and symptoms of pests and diseases, pesticides, usage of knapsack sprayer
Required tools, materials and equipment:	knapsack sprayer, measuring cylinder, water, pesticides, gumboots, overall, gloves, nose masks, face shield, soap, stirring rod, helmet
Time allocation:	2 hours
Preferred venue:	Maize garden
Remarks for candidates	Trainees must have personnel protective equipment
Remarks for assessors	Provide all the required tools, equipment and materials for assessment Provide a garden infested with maize stalk borer

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
1.	Preparation for task	<u>Wore protective gear</u>		
		Gum boots		1
		Overall		1
		Gloves		1
		Nose mask		1
		Face shield		1
		Ear blocks		1

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
		Assembled equipment, tools and materials		3
		Assembled knapsack sprayer	2	
		Test run knapsack sprayer	2	
		No leakage observed on the knapsack sprayer		2
2	Preparation of pesticide mixture	Read manufacturer's instructions	2	
		Opened spray pump lid		1
		Measured pesticides according to manufacturer's instructions	4	
		Recommended amount of water measured.		2
		Poured half of the required volume of water into a spray pump		2
		Added the required amount of pesticide		2
		Mixed pesticide with small amount of water	2	
		Topped the tank with water to the right mark.	2	
		No spillage of pesticide observed.		3
		Gently stirred the mixture to a uniform consistence	3	
		Closed the lid on the sprayer	2	
		Tightly closed lid observed		2
3	Spraying of crops	Measured the required garden area to be sprayed	2	
		¼ acre verified		2
		Demarcated area for spraying	2	
		Clear marks at the four corners of the garden observed		2
		Lifted knap sack sprayer to the back and secured it firmly	2	

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
		Pumped the sprayer to build pressure	2	
		Held the handle and directed the nozzle into the leaf axils	3	
		Pressed the trigger and released the pesticide on the crop	2	
		Wetted maize crop observed		3
		Sprayed crops following the direction of wind	3	
4	Post spraying activities	Removed spray pump from the back		1
		Disposed of residual pesticide in a soak pit		3
		Cleaned the spray pump	2	
		No residual pesticide in the tank observed		2
		Dried equipment		1
		Returned tools and equipment to the store		2
		Removed protective gear	2	
		Bathed		2
5.	Documentation	Recorded date of spraying		1
		Recorded pesticide used		1
		Recorded type of pest sprayed		1
		Recorded date of next spraying		1
		Filed records		1
	TOTAL		39	46
			85	

4.0 ATP- PART IV

INFORMATION ON REVIEW PROCESS

4.1 Occupational Profile Developed (August 2020)

The Occupational Profile was exclusively developed by job practitioners who were working in the Mushroom Farmer occupation. The job expert panel, guided by UVQF Facilitators defined duties and tasks performed and provided additional generic information regarding the occupation.

4.2 Training Module Development (August 2020)

Based on the Occupational Profile for Mushroom Farmer of August 2020, Training Modules were developed by job practitioners, guided by UVQF Facilitators.

4.3 Test Item Development (September 2020)

Based on the Occupational Profile for Mushroom Farmer of August 2020, and Training Modules, Test Items were reviewed by combined panels of instructors and job practitioners, guided by UVQF Facilitators.

4.4 Methodology

The rationale for the Assessment and Training Package review was to link Vocational Education and Training to the real world of work by bridging Occupational Standards to Training Standards through industry-led Standards-Based Assessment.

Active participation of both instructors and job practitioners' panels consolidated the review philosophy.

The panelists worked as teams in workshop settings complemented by off-workshop field research and literature review activities including international benchmarking.

4.5 Development Panel

The participating panel of Job Practitioners required for different stages of the Assessment and Training Package i.e. Occupational Profile, Training Modules, Assessment Instruments were constituted by members from the following organisations.

No.	Name	Institution/ Organisation
1.	Siima Sheilla Baitwabusa Annette	Ministry of Education and Sports (MoES)
2.	Namara Hope	National Curriculum Development Centre (NCDC)
3.	Kategere Charles	Agricultural Extension Worker (EADEN) Uganda
4.	Mpawulo Joel	SAW-AEW- Iganga
5.	Masiko Simon	Farmer
6.	Kyeepa Bosco	Bugaya Area Marketing Cooperative Enterprises
7.	Tadare Desmond	Mubuku Irrigation Scheme-Farmer
8.	Asikuku Mary	Local farmer
9.	Alia Rosemary	Akalo SS
10.	Boron Juma	St. Maria Goretti Girl's SS, Fort portal
11.	Bbuye Patrick	Bex Hill High School, Kamutuuza
12.	Kabasa Nasan	International Fertiliser Development Centre (IFDC)
13.	Sekamwa Abdullah	Uganda National Examinations Board (UNEBC)

4.6 Facilitator team

This Assessment and Training Package was developed by a Facilitator team listed below:

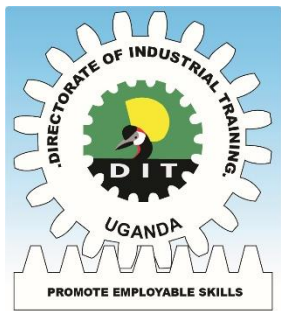
1. **Team Leader:** Ms. Mukyala Ruth, Ag Deputy Director, DIT
2. **Facilitators:** (Occupational Profile Development) – Mr. Muwanguzi Willy, QS, DIT, Ms. Atai Sarah QS.
3. **Compiled by:** Mr. Mwesigwa Isaac, Mr. Lubowa Christopher Derrick, Ms. Ninsiima Isabella and Ms. Nalwanga Rebecca Data Entrants, DIT
4. **Edited by:** Ms Mukyala Ruth Ag. DD, DIT, Qualification Standards Dept. DIT

4.7 Reference time:

The Assessment and Training Package was compiled in September 2020 and may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions

References:

1. *Beinempaker.(Aug 15, 2016). Principles and Practices of Agriculture vol. 1*
2. *Assist Tropical Agriculture*
3. *East African Agriculture: Ngugi Et al*
4. *Agriculture for secondary schools, Professor Katoru Monda.*



ISBN 978-9913-9850-8-6

