



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

Business, Technical, Vocational Education and Training [BTVET] Sub sector Reform



**Assessment and
Training Package
For
SORGHUM AND
MILLET FARMER**

Qualification Level : 1

Occupational Cluster: Agriculture

January 2022

Developed by :

**Qualifications Standards Department
Directorate Of Industrial Training**

Funded by :

Government of Uganda

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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 falls 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 Minister on the recommendation of the Industrial Training Council.
- (3) The Certificates and Diplomas awarded under the Act shall be recognized 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) Harmonizing Curricula and Certificates of competence.
- (d) Assessing Industrial Training.
- (e) Development of Occupational Standards, 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 organizes 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.

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Word from Permanent Secretary

The Ministry of Education and Sports (MoES) through the Directorate of Industrial Training conducts Competence Based Assessment.

The foreseen advantages of CBA include improved access, equity and relevance of skills development, reduced unit costs of training, and recognition of Prior Learning (or on-the-job- training), among others.

As the Ministry executes its obligation of ensuring quality in training standards, the public-private partnership is being strengthened to improve occupational competence of the country's workforce without gender bias.

To achieve the set-out targets, the Directorate embarked on the anticipated UVQF design and development piloting its instruments and mechanisms in order to effectively enhance Competence-Based Assessment (CBA) in Uganda.

To date, the Qualifications Standards Department of DIT has produced Assessment and Training Packages (ATP) for various occupations. Each ATP contains 3 parts namely:

- 1.Occupational/job Profile
- 2.Training modules and
- 3.Assessment instruments Banks

The ATP 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 & Training Package (ATP)" for training, assessment and certification of **SORGHUM AND MILLET FARMER – QUALIFICATION LEVEL 1**.

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

Ketty Lamaro
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 SORGHUM AND MILLET FARMER

This Occupational Profile, which was developed by SORGHUM AND MILLET FARMER s practicing in the world of work mirrors the duties, and tasks Tailors are expected to perform.

0.2. PART II: “Training Modules” in the form of guidelines to train **SORGHUM AND MILLET FARMERS** both on the job as well as in training centers (or combinations of both venues of learning). The Training Modules herein have been developed 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 **SORGHUM AND MILLET FARMER**. These assessment-based instruments were developed by Job practitioners (SORGHUM AND MILLET FARMERS) 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 of time 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 centers as well as companies can accommodate more students 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 developed as follows:

- i Part 1: Occupational Profile: **January 2022**
- ii Part 2: Training Modules: **January 2022**
- iii Part 3: Assessment Instruments: **January 2022**

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

Patrick Byakatonda
Ag. Director DIT

Acknowledgement

The Qualifications Standards Department of DIT wishes to sincerely acknowledge the valuable contributions to the development 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;
- 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 & Certification
ATP	Assessment & Training Packages
BTVET	Business, Technical and Vocational Education and Training
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
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 doing/ 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 LWA are real work situations/assignments.
Modules	Modules are part(s) of a whole 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)	<p>An Occupational Profile is an overview of the duties and tasks a job incumbent is expected to perform competently in employment.</p> <p>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.</p> <p>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</p>

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

Qualification

A qualification is a formal reward for demonstrating competence, based on formal assessment against set standards and provided to the individual in the form of a certificate specifying the nature of the competence.

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. (see also: Duty)

1.0 ATP-PART I

Occupational Profile for SORGHUM AND MILLET FARMER

- 1.1 The OCCUPATIONAL PROFILE (OP) for “SORGHUM AND MILLET FARMER below defines the **Duties** and **Tasks** a competent SORGHUM AND MILLET 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. The panellists, facilitators and coordinators who participated in developing this Occupational Profile for **SORGHUM AND MILLET FARMER** are listed on the following page.

Job Expert Panel

Mulumba Mathius Mutema
NCDC

Busingye Peace Sabiti
MOES

Omukuny Peter
Tororo Girls SS

Atim Mikal
Teso College Aleot

Abenakyo Faith
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Namara Hope
Mbarara High school

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St. Maria Gorreth Girls SS

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Sorghum Farmer- Ngora District

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Millet Farmer- Alebtong District

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Funded by
The Government of Uganda



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

**Business, Technical, Vocational Education
and Training (BTVET) Sub sector Reform**

Occupational Profile
For a
“SORGHUM AND MILLET
FARMER”

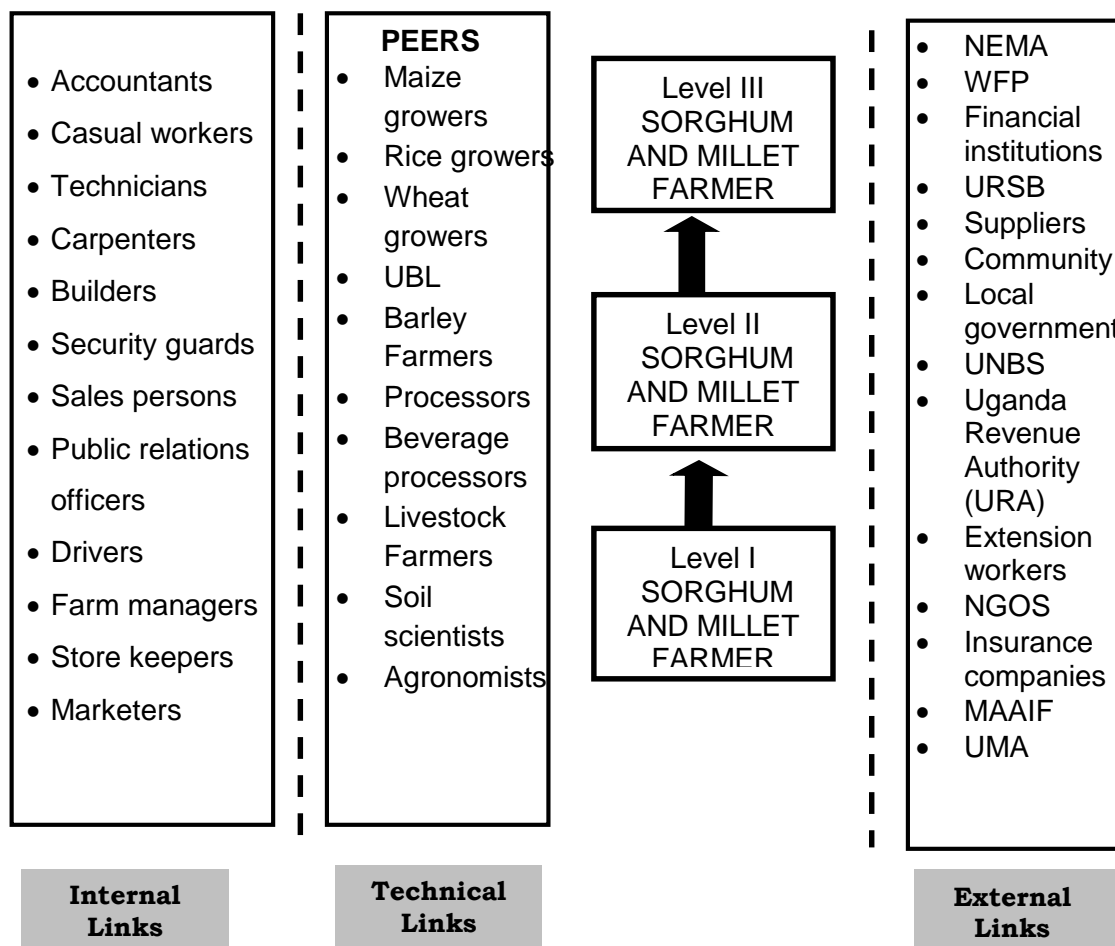
**Developed by: Directorate of Industrial
Training (Qualifications
Standards)**

Dates of workshop: 10st – 14th January 2022

NOMENCLATURE FOR THE OCCUPATION OF SORGHUM AND MILLET FARMER

Definition: A Sorghum and millet farmer is a person who grows Sorghum and millet for commercial purposes.

JOB ORGANISATION CHART FOR A SORGHUM AND MILLET FARMER



Descriptions for the levels in the occupation of Sorghum and millet farmer

Level I: SORGHUM AND MILLET FARMER: Is a person who grows Sorghum and millet using basic Agronomic technologies for commercial purpose

Level II: Level II Sorghum and millet farmer: Is a person who grows Sorghum and millet using improved agronomic technologies and mechanised systems for commercial purposes.

Level III: Level III Sorghum and millet farmer

Is a person who uses advanced technology to produce Sorghum and millet for commercial purpose.

DUTIES AND TASKS

A. PLAN SORGHUM AND MILLET FARMING ACTIVITIES	A1 Conduct feasibility study	A2 Determine farm location	A3 Determine resources
	A4 Prepare budget	A5 Source inputs	A6 Determine labour source
	A7 Determine sorghum and millet variety	A8 prepare crop calendar	A9 Prepare work Schedules
	A10 Prepare Procurement Plan	A11 Prepare Business plan	

B. ESTABLISH SORGHUM AND MILLET GARDEN	B1 Select site	B2 Clear site	B3 Sample soil
	B4 Measure Garden	B5 Prepare seeds	B6 Conduct germination tests
	B7 Apply fertilizers	B8 Plant seeds	B9 Gap fill Garden
	B10 Fence Garden		

C. MAINTAIN SORGHUM AND MILLET GARDEN	C1 Control weeds	C2 Carry out Thinning	C3 Control pests and diseases
	C4 Apply fertilizers	C5 Conserve soil and water	C6 Irrigate crops
	C7 Plant wind Breakers		

D. PERFORM HARVEST AND POST HARVEST HANDLING	D1 Prepare harvesting tools and equipment	D2 Harvest sorghum and millet	D3 Collect sorghum and millet
	D4 Prepare drying yard	D5 Transport harvested sorghum and millet to the drying yard	D6 Dry harvested Sorghum and millet
	D7 Thresh Sorghum and millet	D9 winnow grain	D10 Weigh grain
	D11 Pack grain	D12 Prepare storage facility	

E. MARKET SORGHUM AND MILLET PRODUCES	E1 Bulk produces	E2 Grade produce	E3 Package produce
	E4 Brand produce	E5 Cost produce	E6 Advertise produce
	E7 Promote produce	E8 Transport produce	E9 Negotiate with Customers
	E10 Exhibit Produce	E11 Sell produce	

F. PERFORM OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION PRACTICES	F1 Wear protective gear	F2 Manage waste	F3 Store agro - chemicals
	F4 Perform fire Fighting	F5 Administer first aid	H6 Perform water contamination prevention
	F7 Display safety signs	F8 Implement HACCP Plan	F9 Sensitize workers
	F10 Observe hygiene and sanitation		

G. PERFORM ADMINISTRATIVE TASKS	G1 Register sorghum and millet enterprise	G2 Keep records	G3 Recruit workers
	G4 Train workers	G5 Orient workers	G6 Assign work
	G7 Counsel Workers	G8 Train workers	G9 Supervise works
	G10 Remunerate Workers	G11 Motivate Workers	G12 Appraise workers
	G13 Procure farm Inputs	G14 Prepare Reports	G15 Insure Enterprise
	G16 Manage Finances		

ADDITIONAL INFORMATION

Generic Knowledge & skills

- | | |
|---------------------------------------|---|
| 1. Tools and equipment usage | 23. Customer care |
| 2. Negotiation skills | 24. Training skills |
| 3. Record keeping | 25. Good with the hands |
| 4. Analytical skills | 26. Problem solving skills |
| 5. Pests and diseases | 27. Safety, health and environment |
| 6. Chemical preparation | 28. Public relations |
| 7. Herbicides/ pesticides | 29. Business |
| 8. Pest and disease control | 30. Literacy |
| 9. Seed selection | 31. Numeracy Skill |
| 10. Soil and water Conservation | 32. Measurement |
| 11. Fertilizers and their application | 33. Information and communication
technology |
| 12. Marketing skills | 34. Interpersonal relations |
| 13. First aid administration | 35. Store management |
| 14. Waste disposal and management | 36. Time management |
| 15. Communication skills | 37. Good hand-eye co-ordination |
| 16. Crop spacing | 38. Planning skills |
| 17. Fire fighting | 39. Financial management |
| 18. Planting seasons | 40. Leadership skills |
| 19. Human resource management | 41. Value addition skills |
| 20. Entrepreneurship skills | 42. Problem solving skills |
| 21. Quality control skills | |
| 22. An eye for detail | |

Tools, Equipment and Materials

1. Hoes
2. Slasher
3. Axe
4. Knife
5. Tape measure
6. Gum boots
7. Gloves
8. Overalls
9. Helmets
10. Sprayers
11. Mattock
12. Ploughs
13. Wheel barrows
14. Buckets
15. Weighing scale
16. Spades
17. Computer
18. Telephone
19. File
20. Shovels
21. Pegs
22. Winnowers
23. Masks
24. Grease gun
25. Tarpaulin
26. First aid box
27. Bicycle
28. Motorbike
29. Lorries
30. Wire mesh
31. Thresher
32. Spanners
33. First aid box
34. Watering cans
35. Soil auger
36. Wire strainer
37. Pangas
38. Ropes
39. Gunny bags
40. Rakes
41. Screws
42. Sickle
43. Scissors
44. Racks
45. Soil sampling kit
46. Hammer
47. Timber
48. Jerry cans
49. Brooms
50. Books
51. Pens
52. Rulers
53. Flip charts
54. Calculators
55. Nails
56. Timber
57. Baskets
58. Filler
59. Radio
60. Iron sheets
61. Thermometers

Attitudes/Traits/Behaviour

- | | |
|--------------------------|--------------------------------|
| 1. Self-motivated | 19. Polite |
| 2. Time management | 20. Social |
| 3. Patient | 21. Resilient |
| 4. Observant | 22. Good hand-eye coordination |
| 5. Trustworthy | 23. Respectful |
| 6. Honest | 24. Intelligent |
| 7. Tolerant | 25. Trainable |
| 8. Hard working | 26. Cooperative |
| 9. Customer care | 27. Creative |
| 10. Disciplined | 28. Sharing skills |
| 11. Good Time management | 29. Quality of output |
| 12. Committed | 30. Responsible |
| 13. Good listener | 31. Knowledgeable |
| 14. Flexible | |
| 15. Result oriented | |
| 16. Curious | |
| 17. Competitive | |
| 18. Innovative | |

Future Trends and Concerns

- | | |
|---|------------------------------|
| 1. Mechanization of all farm operations. | 17. Low price. |
| 2. Time manager. | 18. Land shortage. |
| 3. Value addition at the farm before marketing. | 19. Land conflicts. |
| 4. Inadequate networking with peers. | 20. Land fragmentation. |
| 5. Formation of associations. | 21. Land tenure Intelligent |
| 6. Computer literacy. | 22. Commercial production |
| 7. Benchmarking with others in other countries. | 23. Price fluctuation |
| 8. Pests and diseases. | 24. Value addition |
| 9. Climate change | 25. Labour Availability |
| 10. Computer Literacy | 26. High Taxation |
| 11. Creating Farmers groups | 27. Tax compliance |
| 12. Poor quality inputs | 28. Soil infertility |
| 13. Inadequate Capital | 29. Environmental Management |
| 14. inadequate Labour | 30. Seasonal markets |
| 15. Population Growth trends | 31. Poor extension services |
| 16. Domestic consumption | |

2.0 ATP-PART II

Training Modules for Sorghum and Millet 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 that provide the benchmark for curriculum development as well as assessment
- 2.2 This modular format of the curriculum allows learners of the SORGHUM AND MILLET 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 of time 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 SORGHUM AND MILLET FARMER QUALIFICATION LEVEL 1?

A Sorghum and millet farmer level 1 is a person who grows Sorghum and millet using basic agronomic technologies for commercial purpose.

TRAINING MODULES FOR SORGHUM AND MILLET FARMER UVQ LEVEL 1

Code	Module Title	Average duration	
		Contact hours	Weeks
UE/SMF/M1.1	Establish Sorghum/ millet garden	200	5
UE/SMF/M1.2	Maintain Sorghum/ millet Garden	320	8
UE/SMF/M1.3	Perform harvest and post-harvest handling activities	320	8
UE/SMF/M1.4	Establish Sorghum / millet farm enterprise	240	6
Summary	4 Training modules	1080	27weeks

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 for **SORGHUM AND MILLET FARMER**

Code	UE/S&MF/M1.1
Module title	M1.1: Establish Sorghum / millet garden
Related Qualification	<u>Part of:</u> Uganda Vocational Qualification (SORGHUM AND MILLET FARMER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee should be able to establish a Sorghum and millet Garden.
Learning-Working Assignments (LWAs)	<p>LWA 1/1: Prepare land</p> <p>LWA 1/2: Prepare seeds</p> <p>LWA 1/3: Perform planting</p> <p>LWA 1/4: Perform occupational health, safety, and environmental protection</p> <p>Note:</p> <ol style="list-style-type: none"> 1. The learning exercises must be repeated till 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</p> <p>PEX 1.1: Select site</p> <p>PEX 1.2: Clear land</p> <p>PEX 1.3: Measure land</p> <p>PEX 1.4: Test soil</p> <p>PEX 1.5: Plough land</p>
	<p>LWA 1/2: Prepare seeds</p> <p>PEX 2.1: Select seeds</p> <p>PEX 2.2: Conduct germinability test</p> <p>PEX 2.3: Treat seeds</p>
	<p>LWA 1/3: Perform planting</p> <p>PEX 3.1: Select planting method</p> <p>PEX 3.2: Dig furrows</p> <p>PEX 3.3: Plant seeds</p> <p>PEX 3.4: Carryout pricking out</p> <p>PEX 3.5: Perform gap filling</p>
	<p>LWA 3/4: Perform occupational health, safety, and environmental protection</p> <p>PEX 4.1: Use PPE</p> <p>PEX 4.2: Administer first aid</p> <p>PEX 4.3: Store agro-chemicals</p> <p>PEX 4.4: Mange waste</p> <p>PEX 4.5: Clean tools and equipment</p> <p>PEX 4.6: Store tools and equipment</p> <p>PEX 4.7: Perform fire fighting</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	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: <ul style="list-style-type: none"> • Soil sterilisation • Spacing • Types of fertilisers • Fertiliser application techniques • Pests and disease control measure • Germinability tests • Usage of tools and equipment • Storage of agro-chemicals • Health and safety regulations • Soil types • Planting seasons
Average duration of learning	200 hours (25 days) of nominal learning suggested to include: <ul style="list-style-type: none"> • 5days of occupational theory and • 20days of occupational practice
Suggestions on organization 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 recognized 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, jerry can, Wheel barrow, Rake, Spade, Garden trowel, Pegs, Hammer, Watering can, Yoke, winnowers, ox-ploughs , Saw, aluminium tray ,Baskets, Soil auger, Tarpulin
Minimum required materials and consumables or equivalent	Water, Seed treatment chemicals, Seeds, fertilizers, Soil testing kits.
Special notes	

Code	UE/S&MF/M1.2
Module title	M1.2: Maintain Sorghum/millet Gardens
Related Qualification	Part of: Uganda Vocational Qualification (SORGHUM AND MILLET FARMER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee should be able to maintain a Sorghum and millet gardens for maximum productivity.
Learning-Working Assignments (LWAs)	<p>LWA 2/1: Conserve soil and water LWA 2/2: Weed Garden LWA 2/3: Control pests and diseases LWA 2/4: Perform occupational health, safety, and environmental protection</p> <p>Note: The learning exercises may be repeated till the Trainee acquires targeted competence; The Trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.</p>
Related Practical Exercises (PEXs)	<p>LWA 2/1: Conserve soil and water PEX 1.1: Construct drainage channels PEX 1.2: Construct Bunds PEX 1.3: Construct terraces PEX 1.4: Construct Gabions PEX 1.5: Irrigate crops PEX 1.6: Harvest water</p>
	<p>LWA 2/2: Control pests and diseases PEX 2.1: Identify pests or diseases PEX 2.2: Select Pests and disease control method PEX 2.3: Prepare tools and materials PEX 2.4: Apply pesticides PEX 2.5: Practice cultural pest and disease control methods PEX 2.6: Hand pick pests PEX 2.7: Rogue diseased plants</p>
	<p>LWA 2/3: Weed garden PEX 3.1: Prepare tools, equipment and materials PEX 3.2: Perform manual weeding PEX 3.3: Apply herbicides PEX 3.4: Perform mechanical weeding PEX 3.5: Perform thinning</p>

	<p>LWA 2/4: Perform occupational health, safety, and environmental protection</p> <p>PEX 4.1: Manage waste PEX 4.2: Clean tools and equipment PEX 4.3: Use personal protective equipment PEX 4.4: Store chemical, equipment and tools PEX 4.5: Perform fire fighting PEX 4.6: Administer first aid PEX 4.7: Display safety signs PEX 4.8: Observe OHSE rules and regulations PEX 4.9: Maintain hygiene and sanitation</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>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.</p> <ul style="list-style-type: none"> • Soil and water conservation methods • Water harvesting • Irrigation methods • Pest and disease control methods • Weed control methods • Use of tools and equipment • Maintain tools and equipment • Waste disposal management • Safe handling of chemicals
Average duration of learning	<p>320 hours (40 days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> • 10days of occupational theory and • 30days of occupational practice
Suggestions on organization 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 recognized assessment body using related Written Test Items from Item Bank
Minimum required tools/ equipment/ implements or equivalent	Panga, Hoe, Sprayer, Measuring cylinder, Jerry cans, Watering can, Sickle, Slasher, Gumboots, Overall, Masks, Gloves, helmet.

Minimum required materials and consumables or equivalent	Water, Writing materials, Masks, Herbicides, Fertilizers
Special notes	Handling and usage of fertilizers should follow 4Rs i.e. right (time, type, quantity and placement)

Code	UE/S&M F/M1.3
Module title	M1.3: Perform harvest and post-harvest handling activities
Related Qualification	<u>Part of:</u> Uganda Vocational Qualification (SORGHUM AND MILLET FARMER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee should be able to harvest Sorghum and millet and practice post-harvest handling.
Learning-Working Assignments (LW As)	<p>LWA 3/1: Harvest Sorghum/ millet LWA 3/2: Dry produce LWA 3/3: Prepare produce for storage LWA 3/4: Store produce LWA 3/5: Add value to Sorghum / millet LWA 3/6: Perform occupational health, safety and environment protection practices</p> <p>Note:</p> <ol style="list-style-type: none"> 1. The learning exercises may be repeated till the Trainee acquires 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 3/1: Harvest Sorghum / millet PEX 1.1: Identify mature crops PEX 1.2: Prepare tools PEX 1.3: Cut Sorghum and millet heads PEX 1.4: Heap produce on the tarpaulin PEX 1.5: Transport harvested Sorghum and millet to drying yard</p> <p>LWA 3/2: Dry produce PEX 2.1: Identify drying site PEX 2.2: Prepare drying yard PEX 2.3: Spread harvested Sorghum / millet on the yard</p> <p>LWA 3/3: Prepare produce for storage PEX 3.1: Prepare tools PEX 3.2: Thresh sorghum/ millet heads PEX 3.3: Winnow Sorghum/ millet PEX 3.4: Test moisture content PEX 3.5: Sort grain PEX 3.6: Treat grain PEX 3.7: Pack grain PEX 3.8: Weigh produce PEX 3.9: Pack produce</p>

	<p>LWA 3/4: Store produce PEX 4.1: Clean store PEX 4.2: Control storage pests PEX 4.3: Place produce on rack PEX 4.4: Secure store PEX 4.5: Regulate storage temperature</p> <p>LWA 3/5: Add value to Sorghum/ millet PEX 5.1: Fortify sorghum or millet PEX 5.2: Extract Gluten from Sorghum and millet PEX 5.3: Ferment Sorghum / millet for Alcohol PEX 5.4: Sprout Sorghum / millet for animal feeds PEX 5.5: Mill Sorghum / millet PEX 5.6: Package products</p>
	<p>LWA 3/6: Perform occupational health, safety, and environmental protection. PEX 6.1: Manage waste PEX 6.2: Clean tools and equipment PEX 6.3: Use personal protective equipment PEX 6.4: Store chemical, equipment and tools PEX 6.5: Perform fire fighting PEX 6.6: Administer first aid</p>
Occupational health and safety	<p>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.</p>
Pre-requisite modules	<p>None</p>
Related knowledge/ theory	<p>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:</p> <ul style="list-style-type: none"> • Harvesting technique • Moisture testing technique • Types of tools and equipment • Crop maturity identification • Storage • Value addition • Weighing • Fortification knowledge • Fermentation • Milling • Seed treatment

Average duration of learning	320 hours (40 days) of nominal learning suggested to include: <ul style="list-style-type: none">• 10 day of occupational theory and• 20 days of occupational practice
Suggestions on organization 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 recognized assessment body using related Written Test Items from Item Bank.
Minimum required tools/ equipment/ implements or equivalent	Pangas, Wheelbarrow, Telephone, Winnowers, Threshers, Pallets, Weighing scales, Strings, Sickle, Knife, Gumboots, Gloves, hammer, hand saw, tape measure, tarpaulin First aid kit, Overalls, head gear, Nose mask, bicycles
Minimum required materials and consumables or equivalent	Nails, wood, pesticides,
Special notes	

Code	UE/SMF/M1.4
Module title	M1.4: Establish Sorghum / millet farm enterprise
Related Qualification	<u>Part of:</u> Uganda Vocational Qualification (SORGHUM AND MILLET FARMER UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee should be able to plan and effectively establish a sorghum or millet farming enterprise
Learning-Working Assignments (LWAs)	<p>LWA 4/1: Plan Sorghum / millet farm enterprise LWA 4/2: Establish farm structure LWA 4/3: Perform administrative tasks LWA 4/4: Market Sorghum / millet produce LWA 4/5: Perform occupational health, safety and environment protection practices</p> <p>Note:</p> <ol style="list-style-type: none"> 1. The learning exercises may be repeated till the Trainee acquires 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 4/1: Plan Sorghum and millet enterprise PEX 1.1: Develop business ideas PEX 1.2: Conduct research PEX 1.3: Determine market PEX 1.4: Determine human resources needs PEX 1.5: Determine financial resource needs PEX 1.6: Determine tools, Equipment and materials needed PEX 1.7: Locate firm PEX 4.8: Make Budget PEX 4.9: Determine source of resources PEX 4.10: Prepare work schedules PEX 4.11: Determine land requirements</p> <p>LWA 4/2: Establish farm structure PEX 2.1: Erect fence PEX 2.2: Erect store/Cribs PEX 2.3: Erect workers house PEX 2.4: Erect farm office PEX 2.4: Construct water reservoir PEX 2.5: Construct access roads PEX 2.6: Erect sanitary facilities</p>

	<p>LWA 4/3: Perform administrative tasks</p> <p>PEX 3.1: Register enterprise PEX 3.2: Recruit workers PEX 3.3: Train workers PEX 3.4: Orient workers PEX 3.5: Supervise works PEX 3.6: Motivate workers PEX 3.7: Remunerate workers PEX 3.8: Attend meetings PEX 3.9: Keep records PEX 3.10: Communicate with stake holders PEX 3.12: Manage conflicts PEX 3.13: Procure farm inputs PEX 3.14: Insure business PEX 3.15: Maintain tools and equipment PEX 3.16: Network with peers</p> <p>LWA 4/4: Market Sorghum / millet products</p> <p>PEX 4.1: Conduct market research PEX 4.2: Bulk produce PEX 4.3: Package products PEX 4.4: Brand products PEX 4.5: Grade products PEX 4.6: Set prices PEX 4.7: Advertise Products PEX 4.8: Promote products PEX 4.9: Exhibit Products PEX 4.10: Transport produce</p> <p>LWA 5/5: Perform occupational health, safety, and environmental protection</p> <p>PEX 5.1: Manage waste PEX 5.2: Clean tools and equipment PEX 5.3: Use personal protective equipment PEX 5.4: Maintain hygiene and sanitation PEX 5.5: Perform fire fighting PEX 5.6: Administer first aid</p>
<p>Occupational health and safety</p>	<p>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.</p>
<p>Pre-requisite modules</p>	<p>None</p>

Related knowledge/ theory	<p>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:</p> <ul style="list-style-type: none"> • Prices • Price negotiation skills • Methods of marketing products • Methods of advertising • Record keeping • Qualities of an Entrepreneur
Average duration of learning	<p>240 hours (30 days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> • 15 days of occupational theory and • 15 days of occupational practice
Suggestions on organization of learning	<p>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.</p>
Assessment	<p>Assessment to be conducted according to established regulations by recognized assessment body using related Written Test Items from Item Bank.</p>
Minimum required tools/ equipment/ implements or equivalent	<p>Slasher, Hoe, Pangas, Wheelbarrow, Telephone, Pallets, Weighing scales, Strings, Sickle, Knife, Gumboots, Gloves, Helmets, Gully bags. spirit level, Calculator, Computer, First aid kit, plumb bob,</p>
Minimum required materials and consumables or equivalent	<p>Bricks, sand, cement, Paint, timber, stationary, Legal documents, Airtime , Data, Aggregates, Roofing materials</p>
Special notes	

3.0 ATP-PART III

Assessment Instruments for Sorghum and Millet 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.
- 3.2 Assessment of occupational competence should comprise both practical (performance) testing and written (theory/knowledge) testing.
- 3.3 Based on the Occupational Profile, and training modules, 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 **SORGHUM AND MILLET FARMER** are included:

Overview of test item samples included:

No	Type of test items	Numbers
1	Written (theory) –short answer	3
2	Written (theory)- multiple choice	2
3	Written (theory)- Matching with cause and effect	1
4	Written (theory)- matching with work sequences	2
5	Written (theory)- matching with generic	2
6	Performance (practical) test item	2
Total		12

WRITTEN TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database			
	Written (Theory) Test Item- No. 1			
Occupational Title:	Sorghum and millet farmer			
Competence level:	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:	January 2022			
Related modules:	M1.1			
Time allocation:	3 minutes			

Test Item	List four reasons why a Sorghum / millet farmer should carry out soil sampling and testing before planting
Answer spaces	I. II. III. IV.
Expected answers	i. To determine soil PH ii. To determine the level of soil fertility iii. To determine water content of the soil iv. To identify type for soil v. To determine aeration of the soil vi. To determine water holding capacity of the soil vii. To determine the type of fertilizer to be applied

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DIT/ QS	Test Item Database			
	Written (Theory) Test Item- No. 2			
Occupational Title:	Sorghum and millet farmer			
Competence level:	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:	January 2022			
Related modules:	M1.2			
Time allocation:	2 minutes			

Test Item	List four common practices carried out in maintaining a Sorghum / millet garden
Answer spaces	I. II. III. IV.

Expected answers	i. Pest and disease control ii. Weeding iii. Fence garden iv. Thinning v. Irrigation vi. Rogueing vii. Gap filling viii. Inspect garden ix. Fertilizer application
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DIT/ QS	Test Item Database			
	Written (Theory) Test Item- No. 3			
Occupational Title:	Sorghum and millet farmer			
Competence level:	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:	Januar1 2022			
Related modules:	M1.1			
Time allocation:	3 minutes			

Test Item	List any six tools used during establishment of a Sorghum / millet garden
Answer spaces	I. II. III. IV. V.

Expected answers	i. Hoes ii. Pangas iii. Soil auger iv. Wheel barrow v. Tape measure vi. Axe vii. Spade viii. First aid kit
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DIT/ QS	Test Item Database			
	Written (Theory) Test Item- No. 4			
Occupational Title:	SORGHUM AND MILLET FARMER			
Competence level:	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 gap filling in a Sorghum or millet garden?
Distractors and correct answer	<ul style="list-style-type: none"> A. Control ling weeds B. Reducing competition C. Controlling soil erosion D. Achieving optimum plant population

Key (answers)	D
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DIT/ QS	Test Item Database			
	Written (Theory) Test Item- No. 5			
Occupational Title:	SORGHUM AND MILLET FARMER			
Competence level:	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:	January 2022			
Related modules:	M1.4			
Time allocation:	2 minutes			

Test Item	Which of the following is NOT a marketing activity in Sorghum / millet farming?
Distractors and correct answer	A. Promotion B. Winnowing C. Packaging D. Advertising

key (answers)	B
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DIT/ QS	Test Item Database			
	Written (Theory) Test Item- No. 6			
Occupational Title:	Sorghum and millet farmer			
Competence level:	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:	January 2022			
Related modules:	M1.4			
Time allocation:	3 minutes			

Test Item	Match the following activities with their roles in marketing of Sorghum / millet.
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Column A	
1	Sales promotion
2	Packaging
3	Advertising
4	Market research

Column B	
A	Creating customer awareness about Sorghum and millet
B	Identifying customer location
C	Reducing costs of production
D	Stimulating customers to buy
E	Preventing of products from contamination and spoilage
F	Making utilization of millet and sorghum easy

Key(answer)	1-D,2-E,3-A,4-B.			
9DIT/ QS	Test Item Database			
	Written (Theory) Test Item- No. 7			
Occupational Title:	SORGHUM AND MILLET FARMER			
Competence level:	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:	January 2022			
Related modules:	M1.2			
Time allocation:	3 minutes			

Test Item	Match the following field practices with their importance in Sorghum / millet growing.
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Column A	
1	Fertilizer application
2	Timely harvesting
3	Application of pesticides
4	Thinning
5	Gap filling

Column B	
A	Controlling pests and disease infestations
B	Reducing competition among plants
C	Improving on the nutrient content of the soil
D	Conserving of soil moisture
E	Achieving optimum plant population
F	Reducing of crop losses during harvesting
G	Hardening young crops

Key(answer)	1-C,2-F,3-A,4-B,5-E.
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DIT/QS	Test Item Database Written (Theory) Test Item- no.8			
Occupational Title:	SORGHUM AND MILLET FARMER			
Competence level:	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:	January 2022			
Related module:	M1.1			
Time allocation:	4 minutes			
Test Item	Re arrange the following steps followed in preparing of land for sorghum or millet			

Column A (chronology)	Column B (work steps) in wrong chronology order	
1 st	A	Sample soil
2 nd	B	Perform secondary cultivation
3 rd	C	Apply fertilizers
4 th	D	Perform primary cultivation
5 th	E	Measure land
6 th	F	Select site
7 th	G	Clear site
Key (answer)	1-F,G-E,3-A,4-E,5-D,6-B,7-FC	

DIT/QS		Test Item Database Written (Theory) Test Item- no.9		
Occupational Title:	SORGHUM AND MILLET FARMER			
Competence level:	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:	January 2022			
Related module:	M1.4			
Time allocation:	4 minutes			
Test Item	Arrange the activities carried out in post-harvest handling of millet or sorghum produce.			

Column A (chronology)	Column B (work steps) in wrong chronology order	
1 st	A	Pack grains
2 nd	B	Winnow grains
3 rd	C	Dry produce
4 th	D	Store grains
5 th	E	Grade produce
6 th	F	Thresh produce
7 th	G	Weigh grains
8 th	H	Sort grains
Key (answer)	1-C,2-F,3-B,4-H,5-E,6-G,7-A,8-D	

DIT/ QS	Test Item Database			
	Written (Theory) Test Item- No. 10			
Occupational Title:	SORGHUM AND MILLET FARMER			
Competence level:	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:	January 2020			
Related modules:	M1.2			
Time allocation:	3 minutes			

Test Item	Match the following effects with their causes in post-harvest handling of Sorghum / millet produces
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Column A Causes	
1	Incomplete drying
2	Bush around the store
3	Storing of grains on the ground
4	Drying of produces on bear ground

Column B Effects	
A	Stored grains absorb moisture by capillarity
B	Loss of grain
C	Deterioration of produces
E	Rotting of grains
G	Pest infestation

Key(answer)	1-E,2-G,3-A,4-C
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PERFORMANCE TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database Performance test Item- no.11
Occupational Title:	SORGHUM AND MILLET FARMER
Competence level:	Level 1
Code no.	
Test Item:	Prepare and plant sorghum or millet in a size of an area covering 6 by 8m.
Complexity level:	P2
Date of OP:	January 2022
Related module:	M1.1
Related skills and knowledge:	<ul style="list-style-type: none"> • Measurements • Correct spacing • Occupational health and safety • Application • Tool usage • Planting methods • Fertiliser application techniques • Seed varieties • Seasonal calendar • Type of fertiliser • Record keeping
Required tools, Materials and Equipment:	Tape measure, wheel barrow, hoe panga, strings/rope, fertilizer, seeds, rake, spade, pegs, gumboots, gloves, containers , overalls,
Time allocation:	4 hours
Preferred venue:	Sorghum or millet garden
Remarks for candidates	<ul style="list-style-type: none"> • Wear personal protective equipment
Remarks for assessors	<ul style="list-style-type: none"> • Provide necessary tools, equipment and materials • Provide a prepared seedbed • Provide a helper

#	Assessment criteria	Scoring guide	Max Score	
			Process	Result
1	Preparation for the task	<u>Wore protective gear</u> Overall Gum boots Hand gloves Helmet		4
		Assembled tools , equipment and materials		3
		Cleaned tools and equipment		2
2	Digging of furrows	Measured size of the planting area	2	
		6 by 8 square metres area verified		3
		Determined planting depth	2	
		2cm (sorghum) and 1cm (millet) verified		2
		Spaced furrows	3	
		30CM from one furrow to another observed		4
		Applied fertilizers/manure		4
3	Planting of seeds	Placed seeds in the furrows	3	
		Distributed seeds in furrows uniformly		3
		Covered seeds	2	
		Seeds covered with a thin layer of soil observed		4
4	Demobilization of resources	Collected and disposed waste	2	
		Collected waste observed in a waste disposal ground		2
		Collected tools equipment and materials		2
		Cleaned and disinfected tools and equipment		2
		Stored tools, equipment and materials		2
		Removed and stored personal protective equipment		1
		5	Documentation of activity	Recorded the date of planting
Recorded amount of seeds used				1
Recorded the type and quantity of fertilizer used				1
Recorded size of the planted area				1
Recorded the source of seeds planted				2
	TOTAL		14	42
			56	

DIT/ QS	Test Item Database Performance Test Item- no.12
Occupational Title:	Sorghum and millet farmer
Competence level:	1
Code no.	
Test Item:	Prepare and spray 1\4 an acre of a sorghum or millet garden against stalk borers
Performance level:	P.2
Date of OP:	January 2022
Related Module:	M1.2
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, masks, soap, stirring rod, helmet
Time allocation:	2 hours
Preferred venue:	Sorghum or millet garden
Remarks for candidates	Trainees must have personal protective equipment
Remarks for assessors	Provide all the required tools, equipment and materials for assessment

#	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
		Assembled equipment, tools and materials		3
		No leakage observed on the knapsack sprayer		2
2	Preparation of pesticide mixture	Opened the spray pump		1
		Measured pesticides according to manufacturer's instructions	4	
		Recommended amount of water measured.		2
		Poured half water into a spray pump		2
		Recommended pesticide added		2
		Mixed pesticide with small amount of water first then topped to the right mark.	4	
		No spillage of pesticide observed.		3
		Gently stirred the mixture to a uniform consistence	3	
		Topped up to the required mark		3
		No spillage of mixture observed		2
		Closed the sprayer		1

3	Spraying crops	Demarcated area for spraying		1
		Lifted knap sack sprayer to the back and secured it firmly	2	
		Pumped the sprayer to build pressure	2	
		Held the handle and directed the nozzle to the crop	3	
		Pressed the trigger and released the pesticide on the crop	2	
		Even distribution of pesticide on crop observed		3
		Sprayed crops following the direction of wind observed	3	
4	Post spraying activities	Removed spray pump from the back		1
		Properly disposed waste		3
		Cleaned the spray pump		2
		Dried equipment		1
		Returned tools and equipment to the store		2
	Documentation	Recorded date of spraying		1
		Recorded pesticide used		1
		Recorded type of pest sprayed		1
		Recorded date of next spraying		1
	TOTAL		20	42
			62	

4.0 ATP- PART IV

INFORMATION ON DEVELOPMENT PROCESS

4.1 Occupational Profile Development (January, 2022)

The Occupational Profile was exclusively developed by job practitioners who were working in the Sorghum and millet 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 (January 2022)

Based on the Occupational Profile for Sorghum and millet farmer of January 2022, training modules were developed by job practitioners, guided by UVQF Facilitators.

4.3 Test Item Development (January 2022)

Based on the Occupational Profile for Sorghum and millet farmer of January 2022, and Training Modules, Test Items were developed by combined panels of instructors and job practitioners, guided by UVQF Facilitators.

4.4 Methodology

The rationale for the Assessment and Training Package development 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 development philosophy.

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

1.5 Development Panel

The participating panels of Job Practitioners required at different stages were constituted by members from the following organizations:

Development Panel		
No.	Name	Institution/ Organization
1)	Busingye Peace Sabiiti	MOES
2)	Mulumba Mathius Mutema	NCDC
3)	Omukuny Peter	Tororo Girls SS
4)	Atim Mikal	Teso College Aleot
5)	Abenakyo Faith	St. Matys college Kisubi
6)	Namara Hope	Mbarara High school
7)	Boron Juma	St. Maria Gorret Girls SS
8)	Okubal Charles	Sorghum Farmer- Ngora District
9)	Akanyikayo Fortunate	Millet Farmer Rukungiri
10)	Otim Moses	Millet Farmer- Alebtong District
11)	Okori John Alfred	Sorghum Farmer – Dokolo District

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**– Mr. Muwanguzi Willy Verifier QS; Ms. Ruth Arineitwe Verifier QS.
3. **Data Entrants:** Mr. Nkalangwike Ivan Verifier A&C and Bayera Mariam verifier QS
4. **Compiled by:** Mr. Nkalangwike Ivan Verifier DIT.
5. **Edited by:** Ms. Mukyala Ruth, Ag Deputy Director, DIT
6. **Coordinated by** – Mr. Byakatonda Patrick, Ag. Director, DIT; and Ms. Mukyala Ruth Ag. DD Qualification Standards Dept. DIT.

4.7 Reference time:

The Assessment and Training Package was compiled in January 2022 and May be periodically revised to match the dynamic trends in the occupation and hence issued in different versions

Reference Books

- 1 John Taylor, Kwaku G. Duodu (2018) Sorghum and millet farmer. Elsevier
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4. Patricia Para (2019) Sorghum production, Growth Habits and Health Benefits. Nova Science Publishers.
5. Mohar Singh, and Salej Sood (2020) Millet and Pseudo Cereals. Wood head Publishing.
6. Sneha Punia, Anil Kumar Siroha, and Manoj Kumar (2021) Handbook of Cereals, Pulses, Roots and Tubers. CRC Press.