

FARM SUPERVISOR

Competency Standards

National Vocational
Certificate Level 4

Version 1 - November 2015



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Competency Module A: supervise Farm Assets

Overview: This competency standard identifies the competencies required to perform duties necessary for agriculture farm management. Trainee will be able to maintain farm inventory as well as machinery to ensure their working status and maintenance of farm machinery/implements.

Competency Unit	Performance Criteria	Knowledge and Understanding
A1 – maintain farm inventory	<p><i>Trainee will be able to:</i></p> <ul style="list-style-type: none"> P1. Identify inventory of farm assets P2. Perform basic numeracy to maintain physical record P3. Maintain stock register for farm assets 	<p><i>Trainee must know and understand</i></p> <ul style="list-style-type: none"> K1. Types, quantity and size of equipment K2. Functions of farm assets K3. Basic mathematics operation through manual and calculator. K4. Incoming and outgoing of assets
<p>A2. Ensure maintenance of farm machinery/ implements</p>	<p><i>Trainee will be able to</i></p> <ul style="list-style-type: none"> P1. Maintain history sheet of farm machinery P2. Ensure smooth operations of farm machinery by calibrating to optimal specification P3. Ensure preventive maintenance is carried out according to maintenance schedule P4. Adopt safety measure while performing maintenance of farm machinery P5. Store farm machinery appropriately 	<p><i>Trainee must know and understand:</i></p> <ul style="list-style-type: none"> K1. Process of calibration. K2. Operating manuals of machinery K3. Cost efficiency of machinery and equipment K4. Pre and Post safety measures K5. Warranty and life of equipment K6. Methodology of stocking and storage K7. History sheet

Competency Unit	Performance Criteria	Knowledge and Understanding
A3. Maintain land units	<i>Trainee will be able to:</i> P1. Measure boundary of farm to record total available area P2. Mark cultivated and non-cultivated land.	<i>Trainee must know and understand:</i> K1. Geographical and topographical characteristics of farm land. K2. Factors hindering cultivation of non-cultivated land and knowledge to bring this land under cultivation.

Competency Module B: Maintain Farm Records

Overview: This competency standard identifies the competencies required to maintain farm records. Trainee will be able to prepare data sheets including farm production, farm inputs, utility bills and farm accounts etc.

Competency Unit	Performance Criteria	Knowledge and Understanding
B1. Maintain input and farm production records	<p><i>Trainee will be able to:</i></p> <p>P1. Record the crop specific inputs</p> <p>P2. Record the irrigational requirements according to crop</p> <p>P3. Record of crop specific cultivation</p> <p>P4. Record the crop production for data reference</p> <p>P5. Record irrigation charges and power tariff</p>	<p><i>Trainee must know and understand</i></p> <p>K1. Type of fertilizer to be used at the farm</p> <p>K2. Types and concentration of Pesticide, fungicide and herbicide</p> <p>K3. Types and variety of Seed and their sowing rates</p> <p>K4. Fertility level of soil and quality of irrigation water available</p> <p>K5. Canal irrigation schedule</p> <p>K6. Alternative sources of irrigation</p> <p>K7. Types of implements used for cultivation</p> <p>K8. Handling of total yield or produce</p> <p>K9. Modern techniques of storage</p> <p>K10. Agriculture and market taxes</p>
B2. Prepare and maintain log books of farm machinery	<p><i>Trainee will be able to:</i></p> <p>P1. Design basic template for log books</p> <p>P2. Maintain log books as per requirement on regular basis</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Importance of the log book</p> <p>K2. Storage and utilization of Fuel and Lubricants</p> <p>K3. Cost effective efficiency of farm machinery</p>

	P3. Ensure maintenance protocol based on log book entry	K4. Calculation of fuel consumption K5. Maintenance protocols
B3. Maintain farm/labour accounts	<p><i>Trainee will be able to:</i></p> <p>P1. Enlist and categorise the labour according to their skill</p> <p>P2. Prepare the labour accounts and other expenditures of farm</p> <p>P3. Determine cost of farm production for profit and loss of farm</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Wage rates</p> <p>K2. Basic labour laws</p> <p>K3. Types of labour</p> <p>K4. Labour trends</p> <p>K5. Basic accountancy</p>

Competency Module C: Perform Market Survey

Overview: This competency standard identifies the competencies required to perform market survey. Trainee will be able to to conduct survey for cost effective farm inputs, Identify the potential market for farm production and select the market for purchase and sale of products.

Competency Unit	Performance Criteria	Knowledge and Understanding
C1. Sensitize the product marketing	<p><i>Trainee must be able to:</i></p> <p>P1. Identify the relevant market for purchase of farm inputs P2. Perform comparative cost analysis of farm inputs available in market P3. Purchase cost effective quality farm inputs</p>	<p><i>Trainee must know and understand</i></p> <p>K1. Price list of inputs and farm produce K2. Latest brands of inputs K3. Comparative cost analysis of farm inputs K4. Quality of inputs K5. Government policies for subsidies and support price K7. Loan facility</p>
C2. Manage farm sales	<p><i>Trainee must be able to</i></p> <p>P1. Identify the potential market P2. Select the appropriate buyers according to farm produce P3. Assist in preparing agreements for sales P4. Arrange safe and cost effective transportation of farm produce</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Fluctuation of market price of farm produce K2. Market buyers K3. Basic knowledge of agreement writing K4. Cost effective modes of transportation available in the vicinity</p>

Competency Module D: Conduct farm operations

Overview: This competency standard identifies the competencies required to conduct farm operations. Trainee will be able to design crop scheme and schedule different cultural practices at pre-harvest level. This will also strengthen the knowledge of plant protection and to plan crop inputs including fertilizer, irrigation and crop monitoring.

Competency Unit	Performance Criteria	Knowledge and Understanding
D1. Supervise Farm Labor	<p><i>Trainee will be able to:</i></p> <p>P1. Assign daily duties for the completion of farm task</p> <p>P2. Monitor performance for improvement and better utilization of time/ staff</p> <p>P3. Create conducive environment for efficient output</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Operations of farms</p> <p>K2. Basic welfare and rights of farm labour</p> <p>K3. Basic farm management tools</p> <p>K4. Security protocols</p>
D2 – prepare the crop production schedule	<p><i>Trainee will be able to:</i></p> <p>P1. Identify the market demand for farm produce</p> <p>P2. Prepare cropping scheme for target crops</p> <p>P3. Plan crop sowing according to cropping season</p>	<p><i>Trainee must know and understand</i></p> <p>K1. Market demand/trends</p> <p>K2. High/ low value crops</p> <p>K5. Availability of resources</p> <p>K6. Weather conditions</p> <p>K7. Sowing and harvesting times</p>

Competency Unit	Performance Criteria	Knowledge and Understanding
D3. Carryout farm cultural practices	<p><i>Trainee will be able to</i></p> <p>P1. Arrange the appropriate tools as per requirement</p> <p>P2. Prepare soil for targeted crop</p> <p>P3. Adopt suitable sowing method for better crop</p> <p>P4. Adopt suitable practices to deal with climatic and other adverse stresses</p> <p>P5. Deal with the biological and social threats</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Different farm tools</p> <p>K2. Sowing times of crops</p> <p>K3. Precautionary measures based on Flood information</p> <p>K4. Weather forecasting</p> <p>K5. Biological and social invasions</p> <p>K6. Pest, diseases and weeds</p> <p>K7. Communal perception and attitude</p> <p>K8. Different farming practices</p>
D4. Supervise farm inputs	<p><i>Trainee must be able to:</i></p> <p>P1. Prepare calendar for different inputs as per crop requirement</p> <p>P2. Carryout purchase of different inputs as per calendar</p> <p>P3. Apply prescribed chemical for seed treatment</p> <p>P4. Apply the farm inputs as per crop requirement</p> <p>P5. Adopt safety measures while applying inputs</p> <p>P6. Apply organic sources at the farm to alleviate</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Market rates of inputs</p> <p>K2. Manufacturing and expiry dates of required inputs</p> <p>K3. Formulation techniques for application of inputs</p> <p>K4. Different techniques of application</p> <p>K5. Safety measures during storage and application of inputs</p> <p>K6. Pest scouting for economic use of chemicals</p> <p>K7. Biological control of pests</p> <p>K8. Seed borne diseases and their treatment</p>

Competency Unit	Performance Criteria	Knowledge and Understanding
	the fertility level of soil	K9. Organic and inorganic sources of fertilizers
D5. Carryout plant protection measures	<p><i>Trainee must be able to:</i></p> <p>P1. Undertake pest scouting for proper spray</p> <p>P2. Apply chemical against crop pests and weeds</p> <p>P3. Apply disease control practices</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Pest scouting procedure</p> <p>K2. Difference between insect and pests</p> <p>K3. Attack and damage by different pests</p> <p>K4. Appropriate chemicals and their dosage</p> <p>K5. Biological control measures for pests and diseases</p>
D6. Supervise the irrigation schedule	<p><i>Trainee must be able to:</i></p> <p>P1. Manage sources of irrigation to fulfil water requirements of crops</p> <p>P2. Ensure de-silting of water channels to enhance delivery of water</p> <p>P3. Monitor Irrigation schedule</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Water quality</p> <p>K2. Irrigational requirements of crops</p> <p>K3. Cleanliness/ dechocking of water channels</p> <p>K5. Critical stages of crops regarding water requirement</p> <p>K6. Closure schedule of canals</p> <p>K7. Proper use of rainy water</p>

Competency Module E: Ensure soil conservation and its sustainability

Overview: This competency standard identifies the competencies required to perform conservation of soil and its sustainability. Trainee will be able to enhance and manage soil fertility through application of balanced fertilizers. It will also enhance the capacity and knowledge to perform the crop rotation and reclaim/ improve problematic soil and irrigation water.

Competency Unit	Performance Criteria	Knowledge and Understanding
E1 – Manage soil fertility analysis	<p><i>Trainee must be able to:</i></p> <p>P1. Collect proper soil samples for soil analysis as per standard procedures</p> <p>P2. Arrange soil analysis from relevant laboratory</p>	<p><i>Trainee must know and understand</i></p> <p>K1. Sample techniques and tagging</p> <p>K2. Sample size</p> <p>K4. Analysis facility</p> <p>K5. Parameters or attributes of analysis report e.g.</p> <ul style="list-style-type: none"> • Soil types • Soil pH • Organic matter • Available and non- available plant nutrients • Macro and micro-nutrients • Electrical conductivity
E2. Apply balanced fertilizer (Organic and inorganic)	<p><i>Trainee must be able to</i></p> <p>P1. Select required fertilizer as per soil analysis to enhance fertility</p> <p>P2. Apply fertilizer as per crop requirement</p> <p>P3. Apply available manures and compost to sustain soil fertility</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Different sources and forms of fertilizers</p> <p>K2. Importance of micronutrients</p> <p>K3. Per acre dose of fertilizer for different crops</p> <p>K4. Proper time of application of fertilizer</p> <p>K5. Methods of fertilizer/ manures application</p>

Competency Unit	Performance Criteria	Knowledge and Understanding
E3. Schedule crop rotation	<i>Trainee must be able to:</i> P1. Prepare crop rotation scheme to sustain the fertility P2. Supervise cultivation of crop as per cropping calendar	<i>Trainee must know and understand:</i> K1. Importance of crop rotation K2. Restorative and exhaustive crops K3. Cultivation process K4. Cropping calendar
E4. Ensure reclamation of soil and water	<i>Trainee must be able to:</i> P1. identify the soil and water issues to improve the soil status P2. Apply the amendments to solve soil and water problems as per recommendations	<i>Trainee must know and understand:</i> K1. Categories of soil and water problems K2. Accurate amendments like gypsum and sulphuric acid

Competency Module F: Perform harvesting and post-harvest operations

Overview: This competency standard identifies the competencies required to perform harvesting and post-harvest operations. Trainee will be able to plan and carry out the effective harvesting to handle the losses and quality. It will also strengthen the knowledge of post-harvest processing including sorting, grading and packaging to maintain the quality of farm produce.

Competency Unit	Performance Criteria	Knowledge and Understanding
F1. Ensure crop harvesting at right time	<p><i>Trainee must be able to:</i></p> <p>P1. Identify physiological maturity of crop for harvesting</p> <p>P2. Adopt appropriate method of harvesting according to crop</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Crop ripening indicators</p> <p>K2. Impact of observing proper ripening indicator on yield</p> <p>K3. Types of machinery for crop harvest</p> <p>K4. Different techniques of harvesting</p>
F2. Manage post-harvest operations	<p><i>Trainee must be able to:</i></p> <p>P1. Perform weighing and filling in suitable packing of farm produce</p> <p>P2. Arrange transport for farm produce at proper place within farm</p> <p>P3. Carryout post-harvest treatment for safety of farm produce</p>	<p><i>Trainee must know and understand:</i></p> <p>k1. Calibration of weighing balance</p> <p>k2. Suitable packing sources</p> <p>k3. Importance of proper working of transport vehicle</p>

Competency Unit	Performance Criteria	Knowledge and Understanding
<p>F3. Manage safe storage after effective sorting, grading and packing of farm produce</p>	<p><i>Trainee must be able to:</i></p> <p>P1. Perform sorting and grading of farm produce to ensure quality</p> <p>P2. Carryout grade wise packing of farm produce</p> <p>P3. Spray recommended chemical in the store before storage of farm produce</p> <p>P4. Stack/ store the produce packing in proper way in store to ensure the quality of farm produce</p> <p>P5. Maintain temperature and moisture as per requirement in store</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Importance of grade wise quality of farm produce</p> <p>K2. Sorting of farm produce and its importance</p> <p>K3. Quality material for packaging</p> <p>K4. Requirement of ventilation in stores</p> <p>K5. Requirement of temperature and moisture levels in stores</p> <p>K6. Sprays/ chemicals required for storage</p>

Competency Module G: Perform Health, Safety and Security.

Overview: This competency standard identifies the competencies required to Perform Health, safety and security measure. Trainee will be expected to prepare safety plan in order to deal with any emergency and hazardous condition at farm through effective first aid strategy.

Competency Unit	Performance Criteria	Knowledge and Understanding
<p>G1 – Ensure personnel safety</p>	<p><i>Trainee must be able to:</i></p> <p>P1. Execute pictorial guidelines and instructions of personal safety in working premises P2. Ensure proper clothing for safe working P3. Use safety kit during farm operations as per requirement</p>	<p><i>Trainee must know and understand</i></p> <p>K1. Safety manuals K2. Importance of safety standards K3. Usage of safety Tools K4. Proper placement of tools</p>
<p>G2. Perform first aid</p>	<p><i>Trainee must be able to:</i></p> <p>P1. Arrange first aid kit P2. Deal with different injuries and hazards</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Hazards of work place K2. Fire types & basic firefighting techniques K3. First aid treatment for; • Chemical injury • Mechanical injury • Biological injury K4. Manufacturing and expiry dates of first aid medicines</p>
<p>G3. Ensure safe and secure working environment</p>	<p><i>Trainee will be able to:</i></p> <p>P1. Execute guidelines and instruction of safe working.</p>	<p><i>Trainee must know and understand:</i></p> <p>K1. Safety standards K2. Safe working components</p>

Competency Unit	Performance Criteria	Knowledge and Understanding
	<p>P2. Ensure relevant protective clothing and equipment is cleaned and stored in proper place</p> <p>P3. Deal with the potential threats (biological, chemical and physical)</p> <p>P4. Mark the specific working area for specific operations</p> <p>P5. Perform anti-theft measures and secure farm valuables</p>	<p>K3. Storage and stacking of safety components</p> <p>K4. Potential threats</p> <p>K5. Specific working areas</p> <p>K6. Information of local emergency services, hospitals and law enforcements</p>

List of Tools and Equipment

Name of Trade		Agriculture Farm Supervisor
Duration		1 year
Sr. No.	Name of Item/ Equipment / Tools	Quantity
1.	Computer	10
2.	Printer	05
3.	Calculator	20
4.	Scale	20
5.	Compass	5
6.	Different seed treaters	05
7.	Hand tools	5 boxes
8.	Sickles	5
9.	Hand Hoe (Ramba)	20
10.	Spade	20
11.	Pruners	05

12.	Magnifiers	20
13.	Measuring tap	5 boxes
14.	Hoe (kasola)	20
15.	Tractors of different horse powers	02
16.	Primary Tilage implements	20
17.	Disc plough	02
18.	Mold bold plough	02
19.	Chisel plough	02
20.	Disc harrow	02
21.	Cultivators	02
22.	Rota weighters	02
23.	Precision Land levelers	02
24.	Puddler	02
25.	Front blade	02
26.	Rear blade	02
27.	Sowing machines	02

28.	Different planters	05
29.	Seed drills	03
30.	Ridger cum bed shaper	02
31.	Boarder disc	02
32.	Inter cultural machinery:	02
33.	Hoeing machines	05
34.	Rotary weeders	02
35.	Chemical application machinery	02
36.	Sprayers	05
37.	Harvesting machinery:	01
38.	1. Reaper –wind rowers	02
39.	Wheat straw chopper	01
40.	Cutter binder	01
41.	Threshers	01
42.	Combine harvester	01
43.	Irrigation equipment/machinery	01

44.	Centrifugal pumps	01
45.	Diesel engines	01
46.	Trickle irrigation system	01
47.	Sprinkler irrigation system	01
48.	Grader Line	01
49.	Dryers	01
50.	Cleaners	01
51.	Pruning machinery	01
52.	Trolley	01
53.	Weighing machines	01
54.	Fertilizer spreader	02
55.	Fodder chopper machine	01
56.	Knives	05

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