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| Title | **Carry out fertilizer management as per soil condition** | | |
| Level | **3** | **Credits** | **8** |

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| Purpose | These competency standards will ensure that the trainee will be able to select and apply suitable fertilizers at right time and at required level |

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| Classification ISCED | 0811 Crop and livestock production |

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| Available grade | Competent / Not yet competent |

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| Modification history | N/A |

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| **Competency Unit** | **Competency Unit** | **Knowledge & Understanding** |
| **D-1**: Determine the soil suitability for growing chillies | **Trainee will be able to:**  **P1.**Use suitable equipment for soil sampling **P2.**Draw the representative soil samples **P3.**Perform randomized sampling of soil  **P4.**Label the soil sample with all required information  e.g. date of sampling, sampler name and initials etc  **P5.**Select the suitable and reliable laboratory for soil testing  **P6.**Get soil tested from a laboratory  **P7.** Determine the soil fertility by examining the soil test report  **P8.** Recognize typical soil types for determining the suitability for chilli production | **Trainee will be able to describe and explain:**  **K1.** Type of soils and their suitability for chilli production  **K2.** Knowledge about drawing the soil samples  **K3.** Storage of soil samples to conserve moisture and other factors  **K4.** Importance of randomized soil sampling  **K5.** Equipment requirement and their utility for sampling **K6.** Basic soil requirements for production of chillies **K7.** Important components of a soil analysis report  **K8.** Interpretation of soil analysis report |
| **D-2:** Select and apply suitable fertilizers on the | **Trainee will be able to:**  **P1.**Select appropriate fertilizers for the soil on the basis of soil and crop requirement | **Trainee will be able to describe and explain: K1.**Knowing the different properties of soil |

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| basis of soil composition | **P2.**Obtain selected fertilizers from certified/ reliable dealers  **P3.**Apply the required dosage of fertilizer using appropriate procedures  **P4.**Identify the optimum timings of fertilizer application for best results  **P5.**Calculate the fertilizer dosage  **P6.**Determine the mode of action of selected fertilizer  **P7.** Interpret the soil test report | **K2.**Soil deficiencies and their management  **K3.** Interpretation of soil testing reports to determine soil fertility  **K4.**Importance of fertilizers  **K5.** Role of fertilizers in crop production  **K6.** Types of fertilizers and their utility  **K7.** Calculating the fertilizer dose requirement in the light of soil analysis report  **K8.** Method of applying fertilizer at the time of soil preparation  **K9.** Reasons to apply fertilizers  **K10.** Proper timing of fertilizers application  **K11.** Impact of timings of fertilizer application timings on crop productivity  **K12**. Impact of fertilizer dose on crop productivity |
| **D-3:** Use organic fertilizers and fertilizer supplements | **Trainee will be able to:**  **P1.** Select appropriate organic fertilizers such as cattle manure, cereal and legume stovers and wood land litter on the basis of soil and crop requirement, cost and availability etc.  **P2.** Compost the organic fertilizer by utilizing various materials such as straw, tree leaves, farmyard manure etc. | **Trainee will be able to describe and explain: K1.**Importance of organic fertilizers  **K2.**Difference between organic and chemical fertilizers  **K3.**Proper application of organic fertilizers  **K4.**Difference between nutrients and minerals |

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|  | **P3.** Use of organic fertilizer as per requirement by adopting appropriate procedures like broad casting, banding and spot application (or side- dressing)  **P4.** Apply nutrients /minerals for supplementing fertilizers  **P5.** Use organic fertilizer at proper time  **P6.** Calculate the ratio of different nutrients for fertilizer supplementation | **K5.**Type of nutrients and minerals essential for soil  **K6.**Importance of nutrients and minerals in improving the soil fertility  **K7.**Procedures to apply nutrients and minerals.  **K8.**Determination the soil requirements of nutrients and minerals  **K9.** Importance of application of organic fertilizer at proper timing  **K10.** Impact of fertilizer supplementation |