

**Productive task:**

* Fixing a plot for crop cultivation.
* Selection of any one short duration crop.
* Growing a crop by following cultural practices.

**Concept**:

After studying the first lesson and finishing all the tasks you know your soil types and its basic physical, chemical properties. Now according to your soil type and climate you have to select any one crop of your area and try to perform different farming (cultivation) practices. This document will help you to perform these farming practices and understand agriculture (farming) technique through different tasks.

With the use first lesson’s “Interview questionnaire” - select any one Short duration and predominant crop of your area. Understanding the different types of crops and crop suitability for your plot, also the study of crops as classified in references, calculating seed rate as per need of plot, harvesting of crop.

**Tools**:

Metre Tape, String and wooden stakes, Spade, Hoe or mattock, Steel garden rake, Soil amendments, as required, Garden fork or rot tiller

**Class-Age Group**: 14 and above

**Module I - Agriculture & Animal Husbandry**

* *Lesson 2- Farming Activity*
* *Mrs. Pallavi R Shanbhag*

*Open Education Resource*

**Introduction**

In this lesson, we are going to learn actual crop cultivation or farming activities. Before starting your project assignment, let’s understand relation of your local area common crops (cropping pattern) and climate. (In the basic soil lesson we have seen relation between soil type and crops). For understanding crop and climate relation, let’s first understand what is climate? Please follow document from resource documents for this-

[..\Supportive documents\Climatic Requirements.docx](../Supportive%20documents/Climatic%20Requirements.docx)

So, now as you know what is climate and its relation with cropping patter of your area, **identify your local area climatic zone and enlist at least 10 common crops associated with this zone.**

**Productive task1:**

Now, as you know relation of crops (plants) with climate and soil, let’s understand which the most common crops of your area are. For this, complete following table, with information for 5 farmers you met during your first lesson (Interviews questionnaires – farmer’s soil collection survey).-

Activity –

Write the name of respective crop grown commonly. In field column - tick mark in front of the crop. (If yes then (√) else no (×)).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | Name | Field/Farmer 1 | Field/Farmer 2 | Field/Farmer 3 | Field/Farmer 4 | Field/Farmer 5 |
| Vegetable Crop | Leafy Vegetable | |  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Fruit Vegetable | |  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Fruit Crops | | |  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Field Crops | | **Cereals** |  |  |  |  |  |  |
| **Food grains** |  |  |  |  |  |  |
| **Pulses** |  |  |  |  |  |  |
| Flower Crops | | |  |  |  |  |  |  |
|  |  |  |  |  |  |

Now, from above table select any one 1 predominant & short duration (45 to 60 days duration) for project (lesson) assignment.

**NOTE -** You need to justify your selected crop with appropriate relation with climate and soil type of your area (region).

**Before starting your crop cultivation assignment, you can also study Mr.VITHAL’s case study.**

**Mr. Vithal has also crop cultivation project and you can learn from him!**

Please follow document from resource documents for this-

[**..\Supportive documents\Supportive doc- Mr.Vithal's assignment.docx**](../Supportive%20documents/Supportive%20doc-%20Mr.Vithal's%20assignment.docx)

We hope, you have read Mr. Vithal’s assignment and understood different step’s involved in cultivation of crop. These steps are commonly called as package of practices OR farming practices.

Please follow document from resource documents for this-

[..\Supportive documents\Supportive doc- Package of practice for crops.docx](../Supportive%20documents/Supportive%20doc-%20Package%20of%20practice%20for%20crops.docx)

Now, **don’t restrict yourself for Maize** or similar kind of field crop selection. You can select any short duration crop (commonly cultivated in your area) like leafy or fruit vegetables, oil seeds, fodder crop etc.

Cultivation practices of different crops in India (Field crops and common vegetables) – Please follow document from resource documents for this-

[Supportive doc --classification of field crops.docx](Supportive%20doc%20--classification%20of%20field%20crops.docx)

If you select leafy vegetable like fenugreek (Methi), you can follow following steps as guidelines for your project. Please follow document from resource documents for this-

[..\Supportive documents\cultivation of fenugreek.docx](../Supportive%20documents/cultivation%20of%20fenugreek.docx)

After studying your area’s predominated crops as per crop classification i.e. cereal, pulses, food grains, vegetables, flower crops etc. Select your crop.

You have to keep record of your activities in the format given in following document from resource documents for this-

[..\Supportive documents\Record keeping.docx](../Supportive%20documents/Record%20keeping.docx)

Now follow the steps and for each step upload the photographs:

* Select the area of 100-500 sq. Ft.
* Preparation of land

If you have question in your mind - How to prepare land? Then follow the documents from resource documents and presentations:

[..\Supportive documents\Land Preparation.docx](../Supportive%20documents/Land%20Preparation.docx)

[..\PPTs\Soil Preparation.pptx](../PPTs/Soil%20Preparation.pptx)

[..\Supportive documents\preparation of land.docx](../Supportive%20documents/preparation%20of%20land.docx)

**Seed Germination rate:**

**Calculation of germination rate –**

Plant 100 seeds (Jowar / wheat / or any other easily germination seed) in a tray and water it. After 3 -4 days, count seedlings (plants from seeds) developed in tray. Now calculate germination %.

Note - Seed germination is very important factor in quality of seeds we use in agriculture.

Video link - <http://www.youtube.com/watch?v=eelwEB4Z1GA>

**Seed Rate:**

* Calculation of seed rate

**Seed rate -**the amount of seed sown per hectare shown as kilos per hectare (kg/ha)

Let’s now see how to calculate seed rate –

Suppose we want to calculate seed rate for cultivation of maize crop, then we need to find out:

1. Spacing (that is planting distance) of the maize crop.

2. Weight of 100 seeds

3. Calculate average weight of maize crop seeds required for 1 hectare (considering weight measured for 100 seeds)

Let us calculate above three things:

* Spacing of maize is 0.6 \* 0.23 m, so maize plant will required 0.138 sq m space to grow.
* Now by this we can say that around 72463 plants will be required for 1 hectare area. (1 ha = 10000 sq m) that means (10000/0.138 = 72463 ) in other words (1hectare/space required for one plant = Total plants per hectare)
* Now count 100 seeds of maize crop and weigh them.
* Let’s consider weight of 100 seeds of maize crop is 28 gm
* We can calculate weight of 72463 seeds by multiplying it with weight of 100 seeds.

72463 \* 28 / 100 = 20.28 kg

* So seed rate of maize crop will be 20.28 kg / hectare.
* Please note that above seed rate will be for 100 % germination rate so first we have to calculate actual germination rate for given seeds and then make correction in calculated seed rate.
* So if we got germination rate 90 % then raise seed rate by 10 %.

**Seed Treatment:**

For seed treatment Please follow document from resource documents as given below:

[..\PPTs\seed treatment.pptx](../PPTs/seed%20treatment.pptx)

[..\Supportive documents\Supportive doc - Study of seed propogation and performing seed treatment.docx](../Supportive%20documents/Supportive%20doc%20-%20Study%20of%20seed%20propogation%20and%20performing%20seed%20treatment.docx)

**Seed Sowing methods:**

For sowing methods Please follow document from resource documents as given below:

[..\Supportive documents\sowing methods.docx](../Supportive%20documents/sowing%20methods.docx)

* Follow some intercultural operations like weeding, fertilizer application, control of pest and diseases, mulching etc.
* Harvesting and Yield Calculations: harvest the crop at proper stage.

Please follow document for **recording yield** from resource spreadsheet as given below:

[..\Supportive Spread sheet\Crop cultivation calculations.xlsx](../Supportive%20Spread%20sheet/Crop%20cultivation%20calculations.xlsx)