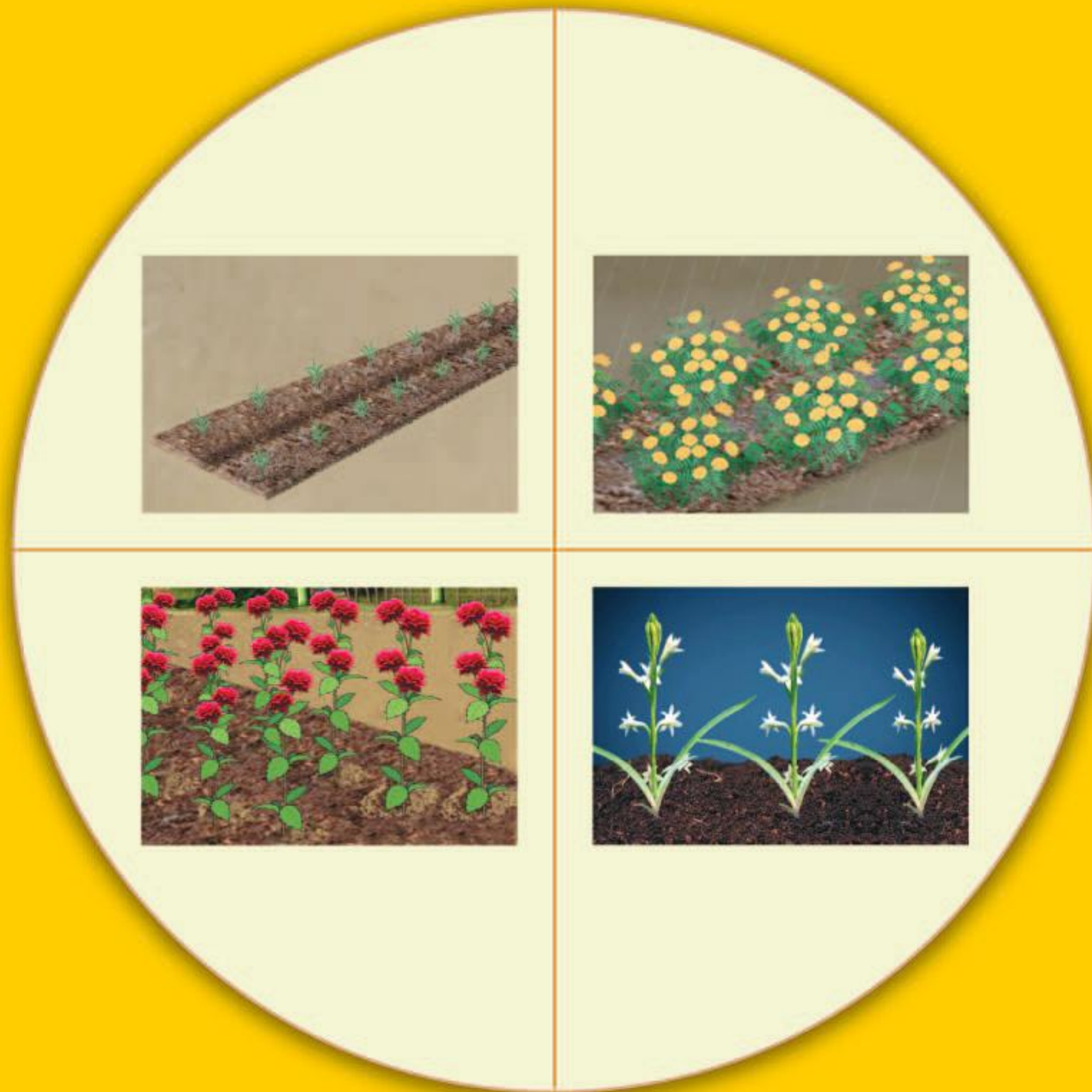




# Flower Gardening



Dhaka Ahsania Mission  
Commonwealth of Learning

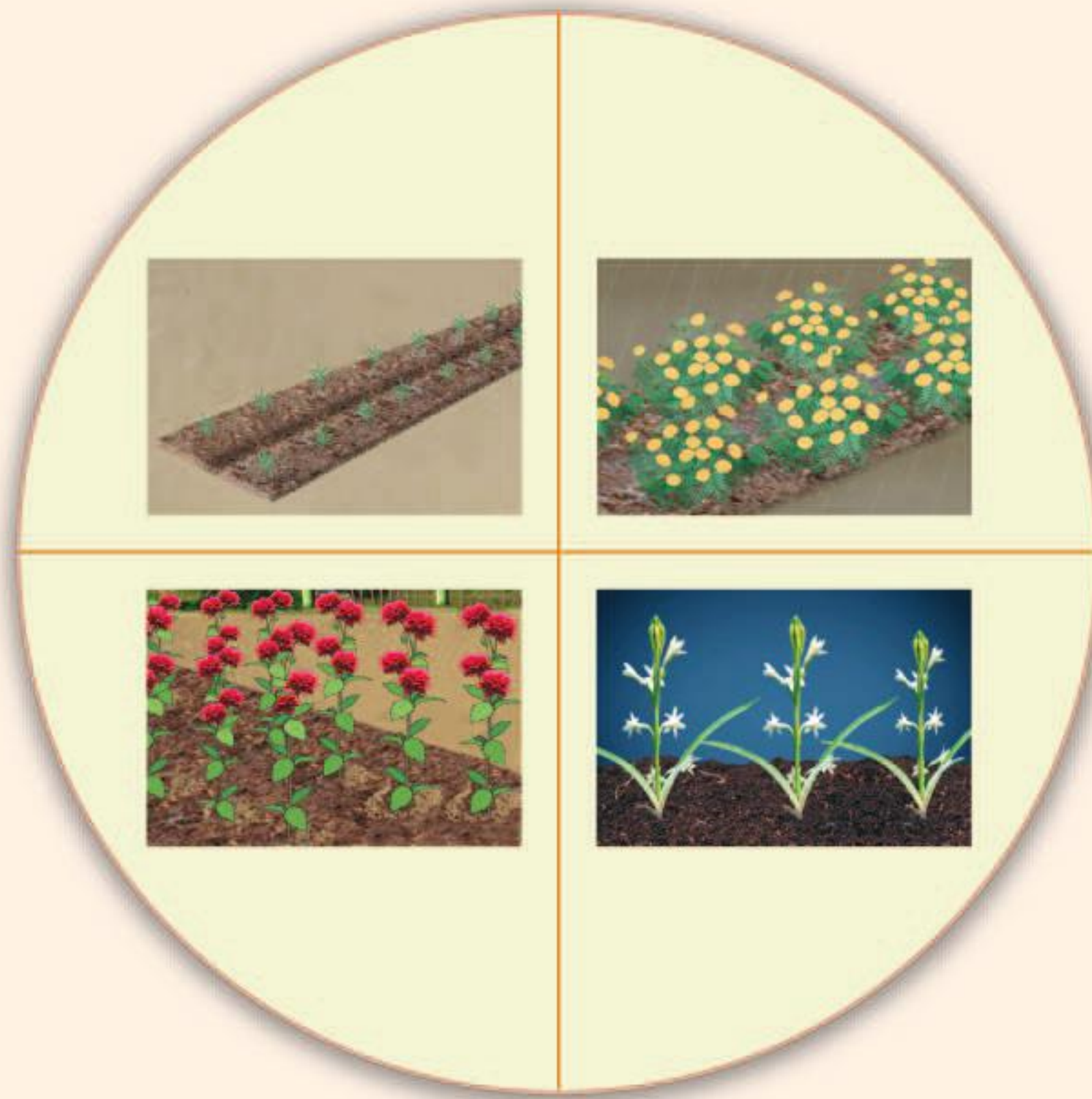






Learning material for the enhancement of livelihood skills  
for people with limited reading skills

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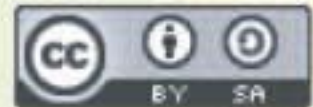
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# Preface

Bangladesh is a country of enormous possibility. Yet, the majority of its people live in poverty, suffering from malnutrition, unemployment, superstition and many other forms of deprivation including natural disasters. Development workers, however, think that this situation can be changed by providing people with education and enhanced skills for livelihoods.

With this prospect in mind, Dhaka Ahsania Mission (DAM), since the early onsets of its development drive has focused on education, and has operated various non-formal education programs for different groups of people. DAM has taken up the initiative to impart skills development training to those people and thus create a pool of human resource. Considering the prime tool to execute all these activities, DAM has consistently prepared education materials of various types and merit as per the needs of different groups of people for their basic and continued education. Presently, Dhaka Ahsania Mission has, to its credit, more than 400 basic and continuing education materials of different titles.

In line with the previous publications, during 2003 - 2004, DAM developed a series of 21 books on skills enhancement and income generating activities. Later, in 2009, three more materials were developed for the workers in the Ready Made Garments (RMG) sector. Basing on that experience, DAM's 'Center for International Education and Development' (CINED) has taken an initiative to develop one more series of livelihood skills enhancement education material with the heading '**let's work and build our lives**'. In this series, 5 booklets have been developed on 5 different topics. Each book in this series is complemented with an animation video. The users of these booklets will benefit from the videos as they can better understand the learning content after watching the videos alongside reading the booklets.

A list of competences that the learners would achieve after reading this booklet has been given at the end of this book. The organizations that are providing training on skills development will play an effective role in imparting competency-based training to the informal sector using the booklets and animated videos of this series. We hope that these materials will be used extensively in the topic-based training of the post-literacy and continued education activities under the non-formal education programs.

The booklet '**Flower Gardening**' is one of the five books in this series. The other booklets in this series are: Flower Gardening, Poultry Rearing, Batik Print and Nursery. The booklet 'Flower Gardening', uses easy to understand language to describe the methods of growing 3 kinds of flowers and how to market and sell flowers.

Chief Executive Officer of CINED, Mr. Shahnawaz Khan, was responsible for the overall coordination of the planning and development of the booklets and the animation videos. "I would like to convey my gratitude and thanks to all who were involved in the development of this booklet. We are sincerely grateful to Commonwealth of Learning (COL) for their generous financial assistance in the development of this series."

We believe that, after reading these booklets, watching the animated videos and using the information, rural women and men will be able to build their home-based small businesses. As a result, their quality of their life will be improved, and they can contribute effectively to the process of national development. We would consider would welcome any suggestions for improvement regarding the booklets and the animation videos

December, 2012

**Kazi Rafiqul Alam**  
President  
Dhaka Ahsania Mission



# Flower Gardening

Flowers are liked by people of all ages. The colours and perfume of flowers delights everyone. That is why flowers are being used in many ways, for many occasions since the ancient times. Flower, above all, are used to pay tribute of love and respect. A present of flowers never fails to please us. Apart from that, one can earn a handsome income by cultivating flowers, making it a good choice for income-generation for many people.



## Why cultivate flowers

Demand for flowers is increasing day by day, particularly for their use in various festivals and ceremonies. It is impossible to cope with such a high demand from amateur gardening. This is why professional flower gardening on a commercial basis is needed. However flowers can be cultivated professionally on a small piece of land with only a little start up capital. This is why, commercial flower gardening is becoming so widespread these days. The reasons why we would grow flowers as a business are:

- A large investment is not required to grow flowers.
- Flower gardening gives a good return on the small amount of money invested.
- Flowers can be cultivated on a small piece of land.
- Flowers can be cultivated throughout the year.
- Flowers can be cultivated by the family members working together.



## Materials needed for flower gardening

Two types of materials are needed to cultivate flowers. They are: 1. Fixed materials, and 2. Current or variable materials.

### 1. Fixed materials

Materials that can be used for a few consecutive years once they are obtained or collected are called fixed materials. An example could be the tools we use such as a spade.

### 2. Current or variable materials

Aside from the fixed materials, many other materials are also needed for production. These materials should only be bought or collected when they are needed. Such materials that are needed only during the actual production process are called current or variable materials. An example could be the rope we need for tying up bunches of flowers. Now, we know that there are some materials we need which we can use over and over again and other materials which we buy and use only when we need them.

### Fixed materials





These materials are available at the shops in the district or sub-district towns or local makeshift bazaars. Approximately, Tk. 6,000 will be required to buy these fixed materials.

### Current or variable materials



Only Tk. 300 will be needed to buy the above mentioned materials. Apart from fixed and variable materials, fertilizer and insecticide are needed to cultivate flowers. The names of some fertilizers are mentioned below:

## The necessary fertilizers to cultivate flowers are:

- Urea fertilizer
- Zinc fertilizer
- TSP (Triple Super Phosphate) fertilizer
- Mustard oil cake
- MOP (Murate of Potash) fertilizer
- Cow dung
- DAP (Di-Ammonium Phosphate) fertilizer.

Except for cow dung, all other fertilizers are available from the dealers' shops in the district and sub-district towns' bazaars or in the makeshift bazaars. However, we have to make sure that we buy good quality fertilizers and pesticides, and that we always buy from reliable fertilizer producers. It is important to carefully study the usage guidelines of the chemical fertilizers and pesticides as their incorrect application can damage your flowers.

## Cultivation of profitable flowers

We will now learn how to grow three kinds of flowers - marigold, rose and tuberose. You can start cultivating flowers having chosen a 5-katha (cotta, 66.88 square meters) piece of land near your house.

## Cultivation of marigold

You can make a good profit if you cultivate marigolds commercially. This is because growing marigolds is cheaper than most other flowers. Marigolds can survive in any environment and are less affected by insect and virus attacks. Unlike most other flowers, marigold can be cultivated three times a year on the same piece of land. 2,000 seedlings are needed to grow marigolds on a 5-cotta piece of land. The price of a thousand seedlings will be around Tk. 350 to Tk. 400.





## Types of marigold

There are two types of marigolds that are commonly cultivated in Bangladesh. The species are:

- African marigold
- French marigold

The usual colours of the African marigold are orange, yellow and dark brown. French marigolds are usually red and yellow. There are more blossoms in the French variety of marigold plants, making it more popular among flower growers.

## Steps of growing marigolds

### Time of sowing the seedlings

July - August or Srabon (name of a Bengali month) is the ideal time to plant the seedling. Seedlings can be produced by sowing seeds in the land or by stem cuttings from marigold plants. During the first year of cultivation, it is wise to collect good quality seedlings either from a nursery or from a neighbouring farmer.

### Choosing land and bed preparation

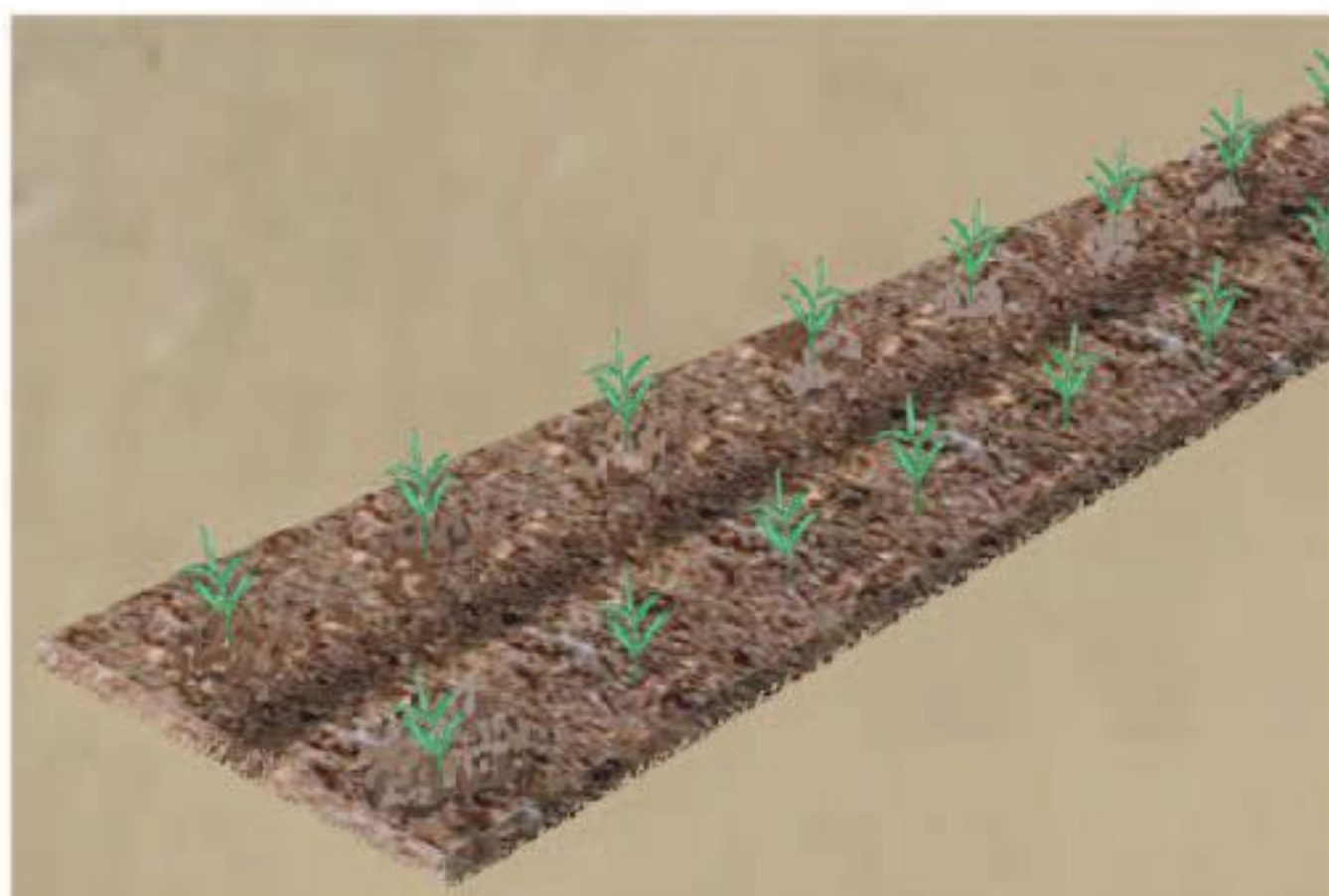
Choose a piece of land that receives direct sunlight from morning to noon. Then prepare the bed, at least 2 inches elevated from the ground, using granular and dry soil. The beds can be of any length, such as, 5 ft, or 10 ft, or 12 ft etc. But, the breadth should be limited to 1.5 ft to 2 ft.



### Application of fertilizers

Before the last plough, apply a total of 500 kg of cow dung at the rate of 100 kg per cotta on a land measuring 5-cotta. Also, apply 5 kg TSP, 1 kg and 300 gm potash and 1 kg and 300 gm urea fertilizers.

### Guidelines for sowing marigold seedlings



Plant the seedlings at a gap of 10 inch from one another. After planting the first row, plant another row of seedlings 3 ft apart. Dig a channel in between the rows. These channels will serve two purposes- water can be irrigated to the plants through the channels and can also serve as a divider between the rows of plants to give you space to take care of them. Following this guideline, plant all the rows of seedlings. If you prepare the bed like this, you can plant 2,000 seedlings on a 5 cotta plot of land.



## Irrigation of land and weed control

Irrigation means to give water. Irrigate the land in the afternoon 2 - 3 days after planting the seedlings. Pull up any weeds with a weeding spade when they appear, roughly 10 - 15 days after planting. Irrigate the land again if the land is dry.



## Branch pruning

To make the plants bushy, prune (cut away) some of the branch tops when the seedlings are 1 month old. This will cause new branches to sprout. Buds will sprout from the top of these new branches.

## Pruning the buds

Every branch will have buds on their tips when the plants are 2 months old. This is a goodtime to re-irrigate the land and also alongside apply 1 teaspoonful of super phosphate per plant. DAP; which is a mixture of urea, TSP and MOP, can also be applied. This will lead to a bountiful blossom of flowers.

## Application of fertilizers and re-irrigation of the land

Every branch will have buds on their tops when the plants get 2 months old. At that time, re-irrigate the land. Alongside irrigating the land, apply 1 teaspoonful of super phosphate per plant. Or else, you can apply DAP, which means a mixture of urea, TSP and MOP altogether. Because of this, a huge number of flowers will be blossomed on the plants.



## Flower collection

Usually, marigold plants have blossoms after 75 days or two and half months from when they are planted. Pick the flowers daily with the help of a knife or blade, leaving a long stem along with each flower. Splash the picked flowers with water to keep them fresh and put them in a basket. You can collect 4 to 5 thousand flowers from 5 cotta land each day. In total it is possible to get 1, 20,000 to 1, 50,000 flowers from the plants. Roughly, 3, 90, 000 flowers can be cultivated from three plantings in a year.





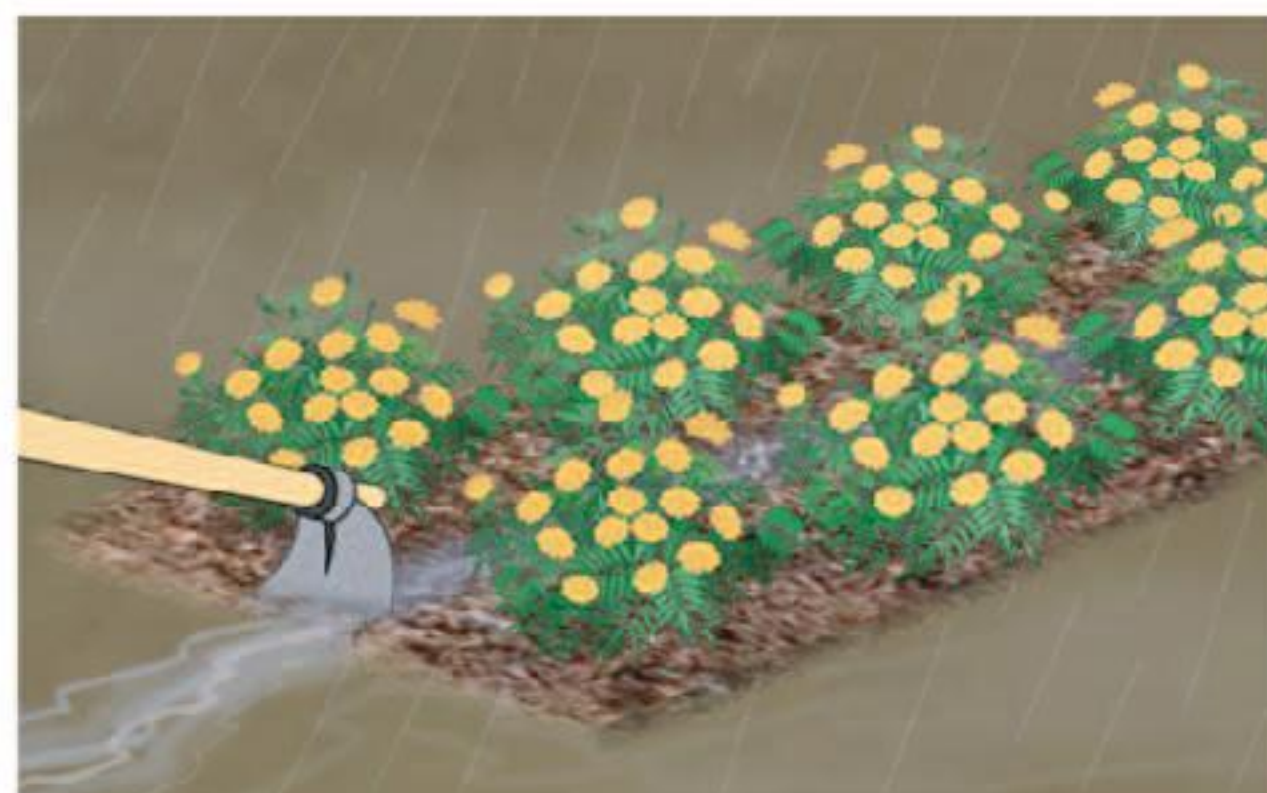
## Remedies from plant diseases and pest attacks

Marigolds suffer from many plant diseases and insect attacks. Now, we will learn reasons for these diseases and their remedies.

Diseases	Reasons	Remedies
Rotting of roots and stem of the marigold plants and dozing down diseases	Water clogging at the roots of the plants and bacterial or fungal attack	You have to pour a mixture of a litre of water and 4 grams copper oxy-chloride at the roots of the plants. Apart from that, you have to spray a mixture of 16 litre water (a barrel of a spray machine) and one third of a 300 gm bottle of Ridomil Gold or Bavistin onto the plants. The diseased plants have to be uprooted and buried or burnt.
Dying plant crests	Bacterial attack	You have to apply Dichlofol and Thiovit. But it is best to uproot such plants and bury them underground or burn them.
Pest attacks	Attack of the 'jab' pests	You have to spray a mixture of a litre of water and 1 ml of Sobicron. You can also spray a mixture of water and a pesticide named Melathion on the affected plants.
Black spots on the leaves	Fungal attack	You have to spray a mixture of a litre of water and 4 grams of copper oxy-chloride on the affected plants. Apart from that, you can also spray a mixture of a litre of water and 2 grams of Mancozeb on the plants affected by fungal attacks.

### Cautionary measures

1. Apply medicines immediately after you notice the plants are being attacked by virus, fungus or pests.
2. Inspect your garden regularly. You have to observe whether the land, plants or flower have any problems.
3. Removing the weeds from the land on a regular basis.
4. Take immediate measures to drain away rainwater when they clog after a rainfall.



### Profit from marigold cultivation

Profit can be found after deducting all relevant costs, incurred in the process of production, from the revenue achieved from selling the produced goods. The surplus amount is the profit. It is possible to make a profit of Tk. 60,000 in a year after cultivating marigold on a 5 cotta land. A provisional income and expenditure account is given below.



## Fixed cost

We already know that the approximate cost of fixed materials needed to cultivate marigold is Tk. 6,000. If we consider 20 percent depreciation of the materials per year, the cost of fixed materials in a year is	Tk. 1,200
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## Current or variable cost

Land preparation (land preparation for 3 times in a year @ Tk. 2,000 per cycle)	Tk. 6,000
Seedling purchase (6,000 seedlings @ Tk. 0.50 per piece)	Tk. 3,000
Fertilizer purchase (3 times @Tk. 1,000 per cycle)	Tk. 3,000
Insecticide / pesticide purchase (3 times @Tk. 500 each time)	Tk. 1,500
Irrigation cost ((3 times @Tk. 500 each time)	Tk. 1,500
Basket, rope and sack purchase	Tk. 300
Land rent (rent of 5 cotta land per year)	Tk. 500
<b>Total current or variable cost</b>	<b>Tk. 15,800</b>

## Total cost

Current or variable cost	Tk. 15,800
Fixed cost	Tk. 1,200
<b>Total cost</b>	<b>Tk. 17,000</b>

## Profit

Sales of flower (3, 90,000 flowers @ Tk. 0.20 per piece)	Tk. 78,000
Total cost (fixed and current or variable cost)	Tk. 17,000
<b>Profit of marigold flower cultivation in a year</b>	<b>Tk. 61,000</b>





## Cultivation of rose

Rose is a darling flower to all. It is not just pleasant to the eye for its beauty, it is also soothing to the soul for its fragrance. No wonder the rose is called the 'queen of flowers'. Roses are of high demand in Bangladesh as its dear to all. Therefore, it is clever to think of cultivating this flower on a commercial basis. Cultivation of this flower incurs a modest expenditure. But one can make a lot of profit if she or he cultivates rose on a commercial basis. The benefits of cultivating roses are- the plants survive for 4 to 5 years and you can obtain 200 to 300 flowers from a single rose plant through its life span. You can buy a rose seedling for Tk. 12 to Tk. 14 from an ideal nursery. Accordingly, the total cost of cultivating roses on a 5 cotta land is Tk. 30 thousand to Tk. 35 thousand.



## Species of rose

There are many species of roses found around the world. The species that are usually cultivated in Bangladesh are:

Species of rose	
Papa Meland	Blue Moon
Mirandi	Montejuma
Double Delight	Tata Center
Tajmahal	City of Belfast
Paradise	

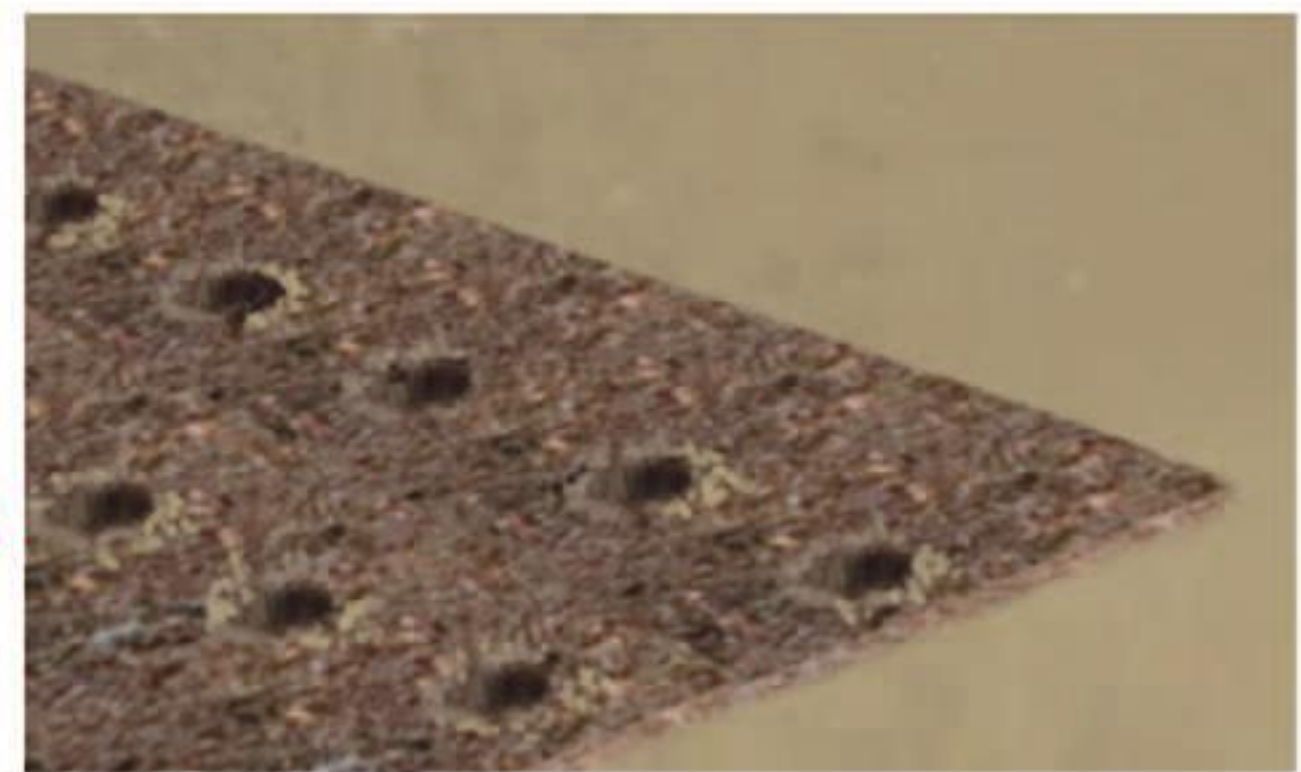
## Steps of rose cultivation

### Choosing land and bed preparation

Prepare the bed as described in the marigold flower cultivation on a similar piece of land.

### Time and guidelines for sowing the seedlings

Dig holes measuring 3 to 4 inch on the upper part of the bed. Sow the seedlings in the holes with 18 inch gap from one another. In this manner, 1,000 seedlings can be sowed on a 5 cotta land. The best time to cultivate rose is during the end of the rainy season, i.e., during the Ashwin - Kartik (names of Bengali months) or the month of September. But you can sow rose seedlings up to February. If you sow the seedlings at this time, flowers can be cultivated by winter. Less irrigation is required at this time as the soil is usually moist. Therefore the cultivation involves less cost. However, the seedlings should be wet with a watering can after being planted.





## Irrigation of land and weed control

Weeds can appear on the bed 10 - 15 days after sowing the seedlings. Root out the weeds once they appear. The bed may become dry after 15 days from sowing, and needs to be re-irrigated. Caution should be taken so that excess water cannot clog at the roots of the seedlings. Excess water at the roots is harmful for the cultivation of rose. Irrigate the land again at an interval of 10 -15 days, if needed.

## Application of fertilizers and re-irrigation of the land

It is not necessary to apply fertilizer on the land within 2 months from the seedling implant. Once the plants have new branches and buds sprout, apply 50 grams of crushed mustard oil cake at the root of every plant. Apart from that, apply 1 teaspoonful of super phosphate or DAP fertilizer per plant and spread the fertilizer on the land. This will result in flower blossom.

Application of liquid fertilizer 20 days after the organic fertilizer is used will result in more flowers. To make the liquid fertilizer, take a bucket of 18 liter capacity and



prepare a mixture of water, 1 kg mustard oil cake and 7 to 8 kg fresh cow dung. After 7 days, add 4 more buckets of water into the mixture to make it thin. Once it is prepared, apply 250 ml of that liquid fertilizer at the roots of each plant. When the plants begin to have buds, apply the liquid fertilizer once every week. This will make your garden glow with blossoms.

## Branch pruning

Start pruning the branches by mid September to October. You have to use a sharp knife or scissors during the pruning. Apply fertilizer after pruning the branches.

## Pruning the buds

Many buds may appear simultaneously on the pruned branches. The flowers cannot grow big if all the buds are allowed to bloom. Therefore, to have bigger flowers, prune all other buds with the help of a knife keeping only the desired ones.





## Flower collection

Nearly every plant will have flowers within 3 months. Pluck the bloomed flowers daily with the help of a knife or blade. Cut the flowers in such a manner that every flower has 3 to 4 leaves at its bottom. This will keep the flowers fresh. Every day, on an average, 180 - 200 flowers can be obtained from a 5 cotta land. Based on that calculation, you can get  $(200 \times 270) = 54,000$  flowers approximately in a year.

## Remedies from plant diseases and pest attacks

Roses suffer from many plant diseases. Now, we will learn about the symptoms of these diseases and their remedies.

Symptoms of the diseases	Remedies
Young leaves get wrinkled and a white powdery coat forms at the bottom of the leaves.	Prepare a mixture of a litre of water and a gram of Benlet, 2 grams of sulphur, and a gram of Bavistin and spray the mixture on the affected plants at an interval of 7 - 10 days.
Deep black spots are seen on both sides and at the edges of the leaves.	Tear off the affected leaves and bury it underground as soon as possible. Prepare a mixture of a litre of water and 2 grams of Captan or a gram of Bavistin and spray that mixture on the affected plants.
The disease sets off at the top of the plants and the plant begins to die. Branches get blackened.	You have to cut the branch off one inch lower from where the disease surfaces on the part of that branch or tranches. Thereafter, you have to spray a mixture of a liter of water and a gram of Bavistin and have to spray that mixture on the affected cut out branch of the plant.
The buds and the branches of the plant gets dry and its color fades. The buds become round brownish	You have to cut the branch off, an inch lower from where the disease. After that, you have to spray a mixture of a litre of water and a gram of Bavistin and spray that mixture on the affected severed branches of the plant.
The buds and the branches become dry and its colour fades. The buds have round brownish spots.	Collect the affected buds and burn them in fire. You have to spray a mixture of a litre of water, 2 grams of Bavistin and 2 grams of Benomil and spray that mixture on the affected areas of the plant.
Red spiders build their webs at the back of the leaves and suck the leaf juices.	Prepare a mixture of a litre of water and a gram of Metasistox and spray it on the affected plants after an interval of 10 - 15 days.

## Plant Care

To get a good yield of roses, you have to nurture your plants well..Hence, it is necessary to abide by the following rules.

- You should remove the root soil before the rainy season in case your garden is an old one.
- You have to clean the weeds in the garden once a week.
- You have to pour a mixture of water and lime on the entire land during September - October.





- You have to prune the branches of your rose plants once a year. It is better if you start at the end of the rainy season until the beginning of winter.
- To reproduce the rose plants or to get new seedlings, you have to prepare grafts from the original plant. You can get different drafts from different parts of a plant such as branch graft, scion graft, dip graft, crumb graft or eye graft etc.
- You can apply the liquid fertilizers to the leaves of the rose plants only during winter. You have to be careful so that the fertilizers do not come in contact with the flowers. You should not apply liquid fertilizers on a flowering plant.

## Profit from rose cultivation

It is possible to make a profit of Tk. 50,000 in a year by cultivating roses on a 5 cotta land. A tentative income and expenditure account is given below.

### Fixed cost

If we recall what we have learned earlier, we can see that the approximate cost of the fixed materials needed to cultivate marigold is Tk. 6,000. If we consider 20 percent depreciation of the materials per year, the cost of fixed materials in a year is Tk. 1,200.	Tk. 1,200
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### Current or variable cost

Land preparation	Tk. 3,000
Seedling purchase (1,000 seedlings @ Tk. 14 per piece)	Tk. 14,000
Fertilizer purchase	Tk. 4,800
Insecticide / pesticide purchase	Tk. 3,600
Irrigation cost	Tk. 3,600
Basket, rope and sack purchase	Tk. 300
Land rent (rent of 5 cotta land per year)	Tk. 500
<b>Total current or variable cost</b>	<b>Tk. 29,800</b>

### Total cost

Current or variable cost	Tk. 29,800
Fixed cost	Tk. 1,200
<b>Total cost</b>	<b>Tk. 31,000</b>

### Profit

Sales of flower (3, 90,000 flowers @ Tk. 0.20 per piece)	Tk. 81,000
Total cost (fixed and current or variable cost)	Tk. 31,000
<b>Profit of rose flower cultivation in a year</b>	<b>Tk. 50,000</b>



## Cultivation of tuberose

Tuberose is also a popular flower. Its main attraction is its fragrance and its charm. Tuberose is used in almost all ceremonials and hence enjoys a high demand all over the country. Both the cultivation cost and risk of cultivating tuberose are low. Cultivation of this flower is highly profitable. One can collect both the seeds and the tubers from a good nursery. Mid-sized tubers are sold at a price of Tk. 1,000 per one thousand pieces. 5,000 tubers are needed to cultivate tuberose on a piece of 5-cotta land. And the cost of cultivation of this flower including the cost price of seeds and tubers will be around 8 to 9 thousand taka.



## Species of tuberose

Two species of tuberose are usually cultivated in our country. They are the single and the double petal tuberose. Among the single petal variety, there are flowers like RojotRekha, Singer, Boibhov and Rojoni. And, amongst the double variety, there are species of tuberose like Pearl, Sornorekha and Subhasini. Amongst the varieties, Rojoni of the single variety and Subhasini of the double variety are most widely cultivated in Bangladesh.

## Steps of tuberose cultivation

### Choosing land and bed preparation

Tuberose is better cultivated on the loamy clay or poly loamy soil. You have to wet the soil of the land before cultivating tuberose flowers. Spade the land to make the soil grainy and dry. Level the soil with a ladder and prepare the bed, at least 2 inches high from the ground.

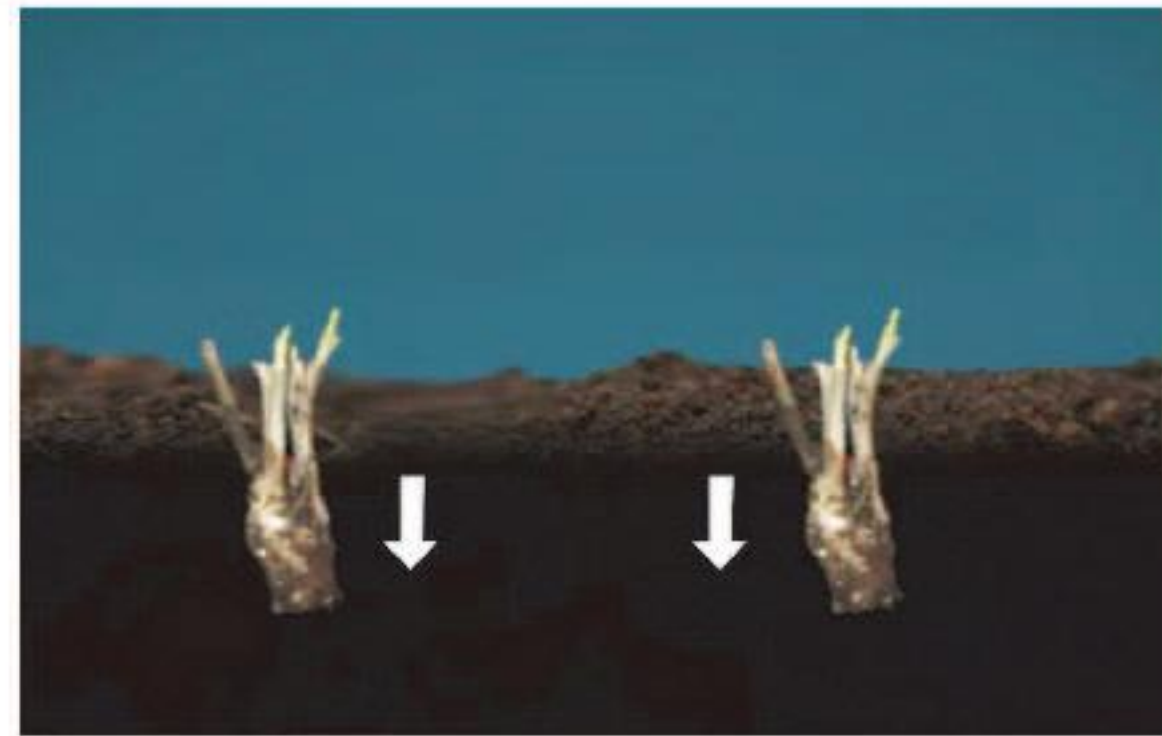


### Sowing the seeds or the tubers

Tuberose seeds or the tubers have to be uprooted from the soil at the end of the winter season. The tubers have to be kept dry at a shady place for a month. This will make the tubers ready to be implanted in the soil. It is better to sow the seeds or the tubers from February till April. But they can be sowed during the rainy season or in the month of May - June as well. You should sow the seeds or the tubers that are mid-sized, so that the seedlings can sprout quickly, and the plants can have flowers early.



You have to press down a plough or a crowbar into the soil and draw lines at a distance of one and half feet from one another. Keep a row blank after every 4 rows. Beds can be both horizontal and vertical. Now, plant the tubers following the line at a gap of 5 inches from one another. Make sure that the tubers are planted 2 inches deep under the soil.



### Irrigation of the land and weed control

Irrigate the land after the tubers are planted. You have to make sure that the entire soil gets wet. Be careful so that water cannot clog anywhere on the bed. Clogged water can rot the tubers while they are sprouting. The seedlings would spring out after 20 days from implanting the tubers. Loosen the soil around the root with the help of a small spud when the seedlings are 1 month old. Uproot grass or weeds that grow on the bed.

### Application of fertilizers

Prepare a mixture of one and a half kg of urea, three and a half kg of super phosphate and three and a half kg of potash for a land measuring 5 cotta. Then, spread out the mixture at the roots of all the sprouted seedlings. Apply 500 grams of potash per cotta after 25 days. Again, apply 500 grams of urea and potash per cotta when the seedlings are 60 days old. Apply a mixture of 700 grams of potash, 25 kg of crushed mustard oil cakes and soil after 4 months and 10 days. After a brief interval, apply 325 grams of urea per cotta during the 6th, 7th and 8th month.



### Irrigation of the land

When the plants turn 2 months old, irrigate the land again. Loosen the soil around the roots if the soil gets dry. Some of the plants will begin to have flowers after 3 months. Irrigate the land immediately when flowers start blooming. It is enough to irrigate the land once in a week during summer and once a month during winter. You also have to spread a mixture of urea, TSP and MOP fertilizers or the DAP to the land. This will result in increased flower production. All the plants will have flowers between the 4th and 5th months. Apply zinc fertilizer when the plants start having blossoms. This will make the flowers grow bigger and more attractive.



## Flower collection

If you plant your tubers during the first week of April, you will start getting flowers by August. You can get flowers for three consecutive years by planting the tuberose plants just once. When the flowers bloom fully, cut the spiky stem as low as possible. Use sharp scissors to cut the spikes off of the stem. The plant will grow new flower-spikes again if you do this properly. This will keep the flowers fresh as well.

It is better to pluck the flowers in the afternoon. One can get 30,000 sticks of tuberose in a year from a 5 cotta land. To get flowers round the year, uproot 20 percent plants from the land after 2 years. Then, replant them one another piece of land. You have to uproot all the plants from the old land after 3 years.



## Remedies from plant diseases and pest attacks

Tuberose plants and flowers suffer from many diseases and pest attacks. Let us learn the reasons for these diseases and their remedies.

Diseases	Reasons	Remedies
Rotting roots	Water clogging at the roots of the plants	Pour a mixture of a litre of water and 4 grams copper oxy-chloride at the roots of the plants. You also have to spread a mixture of urea, super phosphate and potash at the roots.
Flowers shedding from the stem	Lack of phosphorus in the land	You have to apply TSP fertilizer on the land.



## Profit from tuberose cultivation

It is possible to make a profit of Tk. 39,000 in a year after cultivating tuberose on a 5 cotta land. A tentative income and expenditure account is given below.

### Fixed cost

If we recall what we have learned earlier, we can see that the approximate cost of the fixed materials needed to cultivate marigold is Tk. 6,000. If we consider 20 percent depreciation of the materials per year, the cost of fixed materials in a year is Tk. 1,200.	Tk. 1,200
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### Current or variable cost

Land preparation	Tk. 2,000
Tuber purchase (1,000 tubers @ Tk. 5 per piece)	Tk. 5,000
Fertilizer purchase	Tk. 4,800
Insecticide / pesticide purchase	Tk. 3,600
Irrigation cost	Tk. 3,600
Basket, rope and sack purchase	Tk. 300
Land rent (rent of 5 cotta land per year)	Tk. 500
<b>Total current or variable cost</b>	<b>Tk. 19,800</b>

### Total cost

Current or variable cost	Tk. 19,800
Fixed cost	Tk. 1,200
<b>Total cost</b>	<b>Tk. 21,000</b>

### Profit

Sales of flower (30,000 flowers @ Tk. 2 per piece)	Tk. 60,000
Total cost (fixed and current or variable cost)	Tk. 21,000
<b>Profit of tuberose flower cultivation in a year</b>	<b>Tk. 39,000</b>



## Conservation of flowers

After the flowers are plucked (marigold, rose or tuberose), they need to be preserved until they are sold off. The plucked flowers have to be kept in a shady, cool place in the house, if they are not sold on the day they are plucked. Marigolds have to be kept in a basket and they need to be splashed with water often. The lower bottom of the stems and the sticks of the roses and tuberoses have to be kept immersed in water.



## Packaging and marketing

Collect marigolds, roses and tuberoses from the garden in the afternoon. Arrange the flowers in a large basket, crate or in a small basket. In case of roses and tuberoses, tie a bundle of 50 flowers together to make a bouquet. Wrap the top of the bouquets with used newspaper. The flowers can be taken for sales to the local bazaar in baskets or crates. If they are to be transported to a faraway place, they need to be packaged in sacks or cardboard boxes instead of being sent in crates or small baskets. You need to seal the containers by sewing pieces of sacks over them, to keep the flowers fresh.





## Last words

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Flower gardening is a profitable business. The rate of return is many times higher than the cost. Anyone who is interested in making a good profit while investing a relatively small amount of money can think of flower gardening as the means. This trade is not only easy to learn and grasp but also requires no more than 2 to 3 people's involvement. However, it is wise to consult a local farmer who has experience in gardening before getting involved in it. You can take their advice and accordingly start your own flower garden at an open place near your house. You can start your flower gardening on a 5 cotta land, at first. You can also think of gardening 2 to 3 kinds of flowers simultaneously on 5 cotta pieces of land, if you have enough land in your possession. This will ensure even more profits. When profit begins to surface, you can think of gardening more flower varieties.





## Achievable competence

After reading this book, the readers:

1. Would be able to say about the opportunities of the flower gardening as a small business;
2. Would be able to select appropriate land for flower gardening;
3. Would be able to say the names, amount and places of their availability and possible prices of the materials necessary to cultivate flowers.
4. Would be able to narrate the land preparation techniques for flower gardening.
5. Would be able to name the different species of marigold rose and tuberose.
6. Would be able to explain the techniques and time of implanting marigold, rose and tuberose.
7. Would be able to narrate how to irrigate the land and apply fertilizers on the seedlings of marigold, rose and tuberose.
8. Would be able to explain about the types of plant and flower diseases of marigold, rose and tuberose and their remedies.
9. Would be able to say the techniques of collecting marigold, rose and tuberose and how to take care of those flowering plants.
10. Would be able to narrate the techniques of marigold, rose and tuberose flower marketing.
11. Would be able to narrate the possible income and expenditure accounts of marigold, rose and tuberose cultivation.

Readers would be able to grasp the above mentioned competence more skilfully after watching the flower gardening related animated video.





Learning material for the enhancement of livelihood skills for people with limited reading skills

