



What Is This Module About?

The soil is as important as air and water. It is a natural filter that cleans our water and air. Food is produced in the soil. Our homes and buildings are built on soil. It prevents flooding by absorbing water for future use. Unfortunately, like any other natural resource, it is not as fertile or useful as it used to be.

Why do you think this is so? It takes centuries for soil to form, but it only takes several years for man to destroy it.

In this module, you will learn about the different reasons for the degradation of the soil. You will also learn why we must take care of our soil resources, and how we can do this. All this knowledge will be very useful especially to farmers and people whose livelihood depends on the soil.

This module is divided into two lessons:

Lesson 1 – *The Soil as a Source of Life*

Lesson 2 – *A Campaign to Save the Soil*



What Will You Learn From This Module?

After studying this module, you should be able to:

- ◆ determine the factors that contribute to the destruction or degradation of soil resources;
- ◆ explain what makes the soil a living organism;
- ◆ identify the agricultural practices or farming methods which take care of the soil; and
- ◆ explain the importance of taking care of soil resources.



Let's See What You Already Know

Read each statement carefully. Check (4) the appropriate column, depending on whether you **Agree** or **Disagree** with the statement.

Statement	Agree	Disagree
1. All the farming methods used by farmers and plant growers are environment-friendly.		
2. The soil is a nonliving thing.		
3. Anything that is not natural is bad for the environment, especially for the soil.		
4. The soil needs things other than water.		
5. There are living organisms that can be found in the soil.		
6. Microorganisms in the soil can be seen by the naked eye.		
7. One cause of erosion is man's abuse or misuse of the soil.		
8. Burning plant materials is harmful to the soil.		
9. The natural fertility of the soil can be restored immediately.		
10. The soil is not as valuable as water or air.		

Well, how was it? Do you think you fared well? Compare your answers with those in the *Answer Key* on pages 22–23.

If all your answers are correct, very good! This shows that you already know much about this topic. You may still study the module to review what you already know. Who knows? You might learn a few more new things as well.

If you got a low score, don't feel bad. This means that this module is for you. It will help you understand important concepts that you can apply in your daily life. If you study this module carefully you will learn the answers to all the items in the test and a lot more! Are you ready?

You may now go to the next page to begin Lesson 1.

The Soil as a Source of Life

Our country is blessed with land that is suitable for ploughing and growing crops. Unfortunately, we have not used this to our advantage. The people depend on food mostly from the agricultural sector. Sadly, poor farming methods used by this sector, have contributed greatly to the deterioration of this most valuable natural resource.

After studying this lesson, you should be able to:

- ◆ explain why the soil is important;
- ◆ identify agricultural or farming methods that have contributed to the destruction of the soil; and
- ◆ explain the reasons why these methods or practices are harmful to our soil resources.



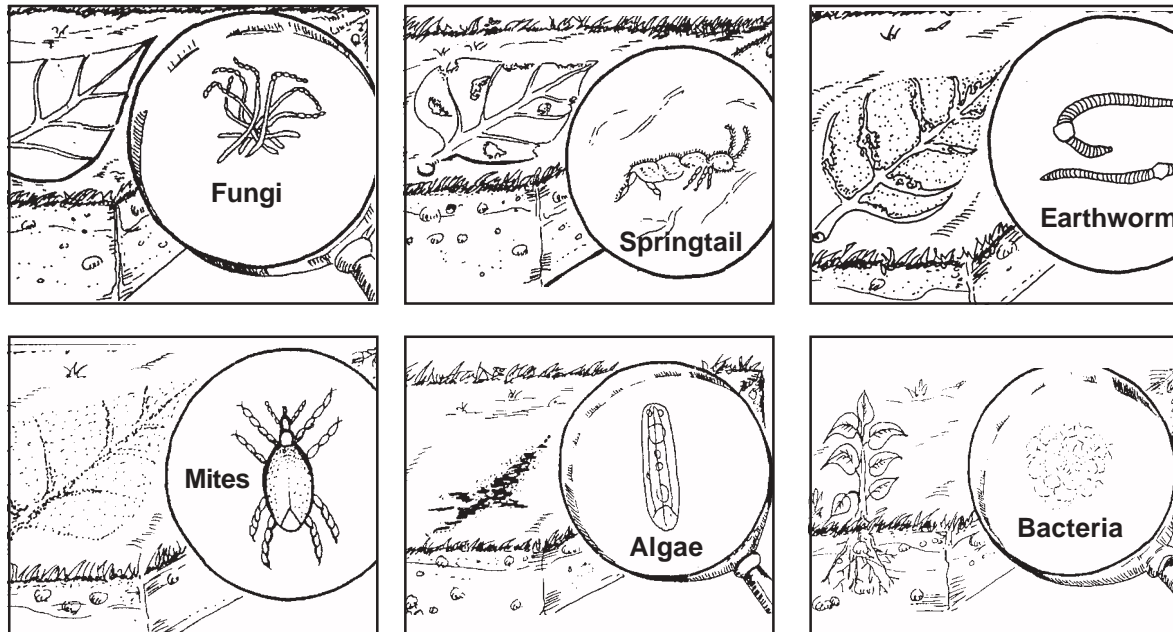
Let's Think About This

Before you learn more about the state of our soil resources, you should first understand what soil is.

Soil is the upper layer of the Earth where plants grow. It is a combination of sand, silt and clay particles combined with water, air and many different microorganisms. A small part of the soil is the **humus**, which is made up of decayed organic matter. The microorganisms turn the humus into nutrients for the plants to feed on.

With all these processes going on in the soil, it is safe to say that the soil is a living organism. The soil is alive! Like anything that lives, it thrives on nourishment and care in order to live and survive.

Look at the pictures below. Observe how the dried leaf disappears over time. Also note the microorganisms that help decompose or “destroy” the leaf.



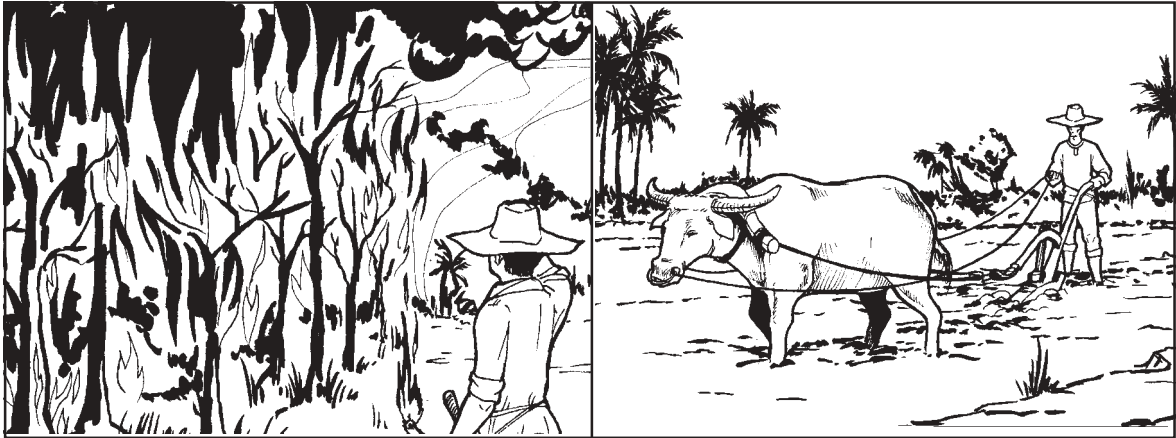
Where did the dried leaf go? The leaf, like all organic matter, went through several stages of decomposition or decay. For each stage of decomposition, microorganisms in the soil were all at work to change the organic matter (the dried leaf) into humus. These microorganisms include fungi and bacteria. There were also larger organisms like the the springtail, earthworm and mite that helped to decompose the leaf.

But remember, these processes depend on the available organic matter, temperature and right level of moisture in the soil. This means that if the soil in a particular place is of poor quality, then expect life there to be of poor quality as well.



Let's Study and Analyze

Does this mean that many issues we are now facing with regard to agriculture can be attributed to how we have been treating our soil? To be able to answer this question, let me first introduce to you Mang Luping, a typical farmer. Let's see what he has been doing these past years as far as treating the soil is concerned.



The slash-and-burn farming method (*kaingin*) and the plowing of the soil are just two destructive methods employed by many farmers like Mang Luping. In the slash and burn method, a field is burned so that farmers can plant crops. This practice disturbs the natural cycle of any living ecosystem. Not only does it kill small animals or insects that may be beneficial to planting; it also kills the organisms that live in the soil. It takes time for these microorganisms to be able to provide life to the soil again. In most cases, the soil “dies” as it slowly loses its natural fertility.

The same can be said about the plowing of the soil. It is also one practice in farming that does not help the soil in the long run. What do you think plowing does to the soil?

If you are not sure, that’s okay. It’s like this: the plowing hardens the soil in the long run because it breaks the soil structure. As the soil hardens, plant roots will have a much more difficult time absorbing the nutrients from the soil. Since fewer nutrients are absorbed, poor plant growth can be expected.

So you see, even tried and tested farming methods are not necessarily good. Here are some more examples to support this statement.



The use of artificial or man-made fertilizers is the result of farming methods like slash-and-burn (*kaingin*) and plowing. Because these methods lead to the depletion of nutrients in the soil, farmers like Mang Luping use synthetic fertilizers to make up for the lost nutrients.

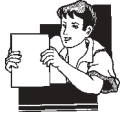
Artificial or synthetic fertilizers are simply bad for the soil. Farmers have forgotten, or simply do not know, that nature is not always able to maintain itself. Man's misuse, abuse or neglect of the environment only brings with it destructive results.

There's one more example that shows the sad state of soil. Look at the picture below.



Our country has many farms that are planted only with rice, corn or coconut. What do you think is wrong with this farming method?

Monocrop farming, or the use of a single kind of crop in farming, promotes decreased activity in the soil. The exchange between the plants and the soil is limited. That is why pests and diseases are constant problems in monocrop farms.



Let's Learn

Look at the picture. What can you say about it?

Why are plants found in forests healthier than those found in common farms? It is because in nature there is no uncovered soil in forests. There are no spaces left vacant because bare soil only means that there is no activity under it. In other words, if there is no activity under the soil, no life flourishes.



Let's Review

Did you feel sad when you learned that, all this time, our very own farmers or plant growers are partly responsible for the current state of our soil resources. How exactly do these farming methods affect our soil?

What do you think are the major consequences of the continued practice of the farming methods previously mentioned? Write down your thoughts in the space below.

Compare your answers with those in the *Answer Key* on page 23.



Let's See What You Have Learned

Write the missing word or words to complete the sentence. Choose your answer from the words in the box below.

artificial fertilizers	slash-and-burn
nature	ploughing
humus	living
soil	farming methods
pesticides and fungicides	monocrop farming

1. The _____ is one of the most valuable natural resources we have. This is where plants grow.
2. _____ is a small part of the soil which is turned into nutrients for the plants.
3. The soil, with all the processes involved in its formation, is truly a _____ organism.
4. The current state of the soil can be attributed to harmful _____, which have been practiced for many generations.
5. To clear the land to be cultivated, farmers employ the _____ method or *kaingin* which have harmful effects on the soil.
6. The digging or _____ of the soil may have been an old farming method, but it is not a very good way of taking care of the soil.
7. Although they help us get rid of pests, the use of _____ also destroy our soil resources.
8. _____ cannot always maintain itself. If man misuses, abuses or neglects it, we can expect harmful effects.
9. Farmers use _____ to make up for the loss of nutrients in the soil.
10. Using only one kind of crop in planting is called _____.

Compare your answers with those in the *Answer Key* on page 24.



Let's Remember

In this lesson, you have learned that:

- ◆ the soil is a natural resource that is as important as air and water;
- ◆ the soil is a living organism that relies so much on what the environment provides it;
- ◆ man contributes to the destruction of soil resources; and
- ◆ the use of artificial fertilizers and other harmful farming methods can harm the soil.

A Campaign to Save the Soil

Always remember that there is a solution to every problem. In Lesson 1, you learned about some factors that have contributed to the deterioration of the soil's natural fertility. The question you might be asking yourself now is: "How do we solve the problem of soil deterioration?"

It is obvious we are all partly responsible for what has happened to the soil. Therefore, we should also find ways to save the soil. Fortunately, there is still hope for this natural resource. We need to save it before it's too late.

After studying this lesson, you should be able to:

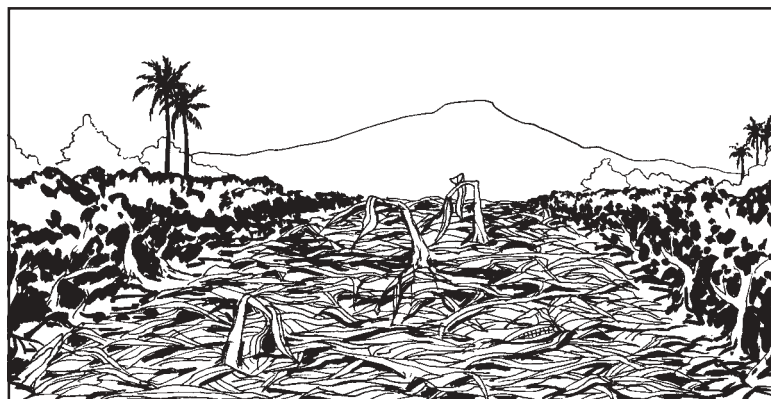
- ◆ identify the ways by which soil resources can be improved and healed;
- ◆ explain how these methods will help take care of the soil; and
- ◆ determine your personal contribution to help save and take care of the soil.



Let's Study and Analyze

The soil has been a part of every living thing's existence. It's time that we return the favor and do something to help the soil regain its fertility. If you were given the chance to talk to Mang Luping, what would you tell him? Do you have any idea at all? It's okay if you don't have any for now. Here are some ideas that may help you when you do get the chance to talk to farmers like Mang Luping.

Always keep in mind that the way to save the soil is by using natural methods! Everything you need to save the soil is just around you. So, start looking.



Mulching

Mulching is the most widely used method of improving the soil's natural fertility. The remnants or fragments of crops, as well as other organic matter, are left to decompose or decay in the field. Example of these are leaves, straw and wilted plants.

The mulch serves as a cover to maintain the activities or processes of the organisms in the soil. It also serves as protection for the soil organisms from the heat of the sun and reduces evaporation. It also slows down the decomposition of the humus.

A layer of mulch helps absorb rainwater which can be useful in times of drought. It also helps prevent the growth of weeds and reduces soil erosion.

Another soil-friendly method similar to mulching is **green manuring and cover cropping**. In this method, crops are grown and are afterwards left to rot, decompose or decay in the field to provide nourishment to soil organisms. By doing this, the humus content in the soil is increased.

It may be useful to use a kind of crop that can be harvested and sold, and its "remains" used as green manure. By doing this, almost nothing is wasted. There are many crops that are suitable for green manuring. Examples are peas and beans. Shrubs or small trees planted as hedgerows can also be used. Leaves that have fallen or that have been cut can be used as green manure and crop cover.

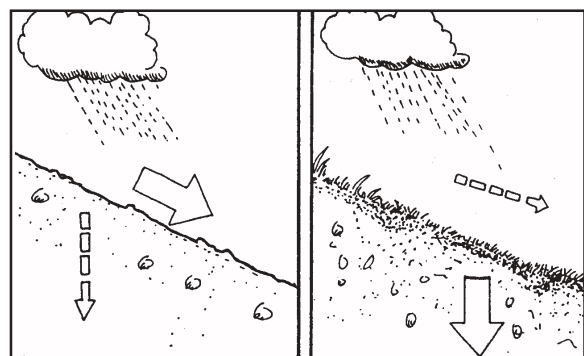


Let's Try This

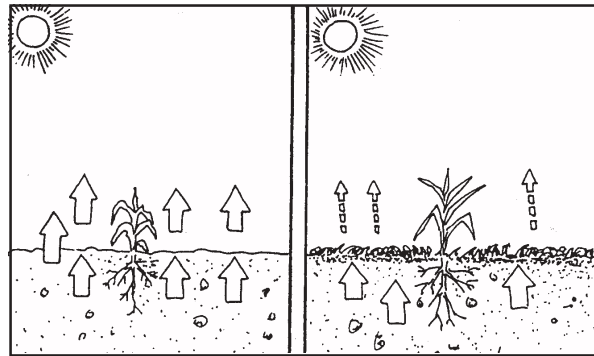
What are the advantages of using mulching to improve the soil's natural fertility? To answer the question, study the illustrations below. Try to describe each.

Advantages of Mulching

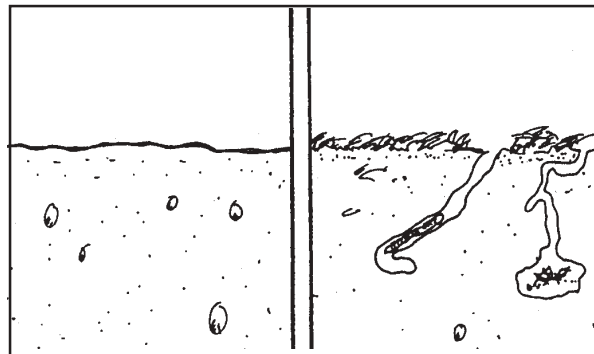
1. _____



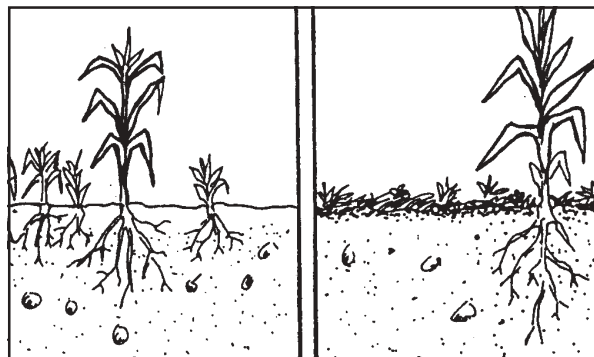
2. _____



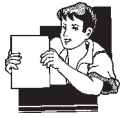
3. _____



4. _____



Don't worry if you were not able to answer all the items. To learn what the correct answers are, turn to the *Answer Key* on page 24. Discussed here are some advantages of mulching.

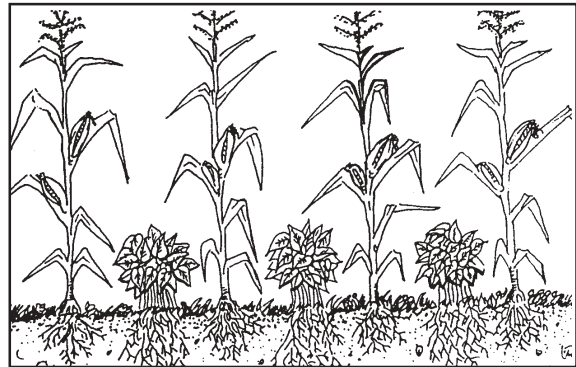


Let's Learn

Aside from mulching and green manuring and cover cropping, multiple cropping can also be suggested to farmers like Mang Luping. If Mang Luping asks, “What is multiple cropping?” you will tell him this...

Multiple cropping is a farming method wherein several crops are all planted at the same time. By planting more than one type of crop, pests or diseases will be prevented. Multiple cropping, just like other soil-friendly methods, prevents erosion because the soil is constantly covered with plants and is not left idle. More importantly, more food is produced for the same amount of land and labor. There are many different ways to do multiple cropping. Study the illustrations below.

Intercropping is a method wherein two or more crops are planted in alternating rows. For example, corn is planted in one row, beans are planted in the next row, then corn again, and so on and so forth.



Mixed cropping is a method wherein two or more crops are not planted in any particular arrangement. Crop seeds are just dispersed all over the soil. Its advantage is that it requires less labor.



Relay cropping is a method where a type of crop is planted in between already existing crops. For example, cassava is planted in between rows of corn in the middle or latter part of the planting.



Multi-storey cropping is a method where crops of different heights are planted. For example, coconut and rice are planted in the same field.



The farming methods mentioned are very good solutions to the problem of the soil's deteriorating fertility. Knowing that there are a lot of ways to recover the soil's natural fertility should give all of us hope.

Can you guess what the next farming method is called? Read and study the clues below.

Clue #1: Just like multiple cropping, several crops are used.

Clue #2: Crops are planted in rotation. For example, one crop is planted this season; then, a different type of crop is planted in the next season.

Clue #3: This farming method has two words. Both words are mentioned in the second clue.

If you guessed crop rotation, you are right! **Crop rotation** is a farming method where crops are planted alternately every other season. For example, rice will be planted this season and another crop—corn, for example—will be planted in the next season. By doing this, pests and diseases are avoided.



Let's Study and Analyze

For plant growers like Mang Luping the soil problem is definitely not a hopeless case. For farmers, the soil is the most important material for their source of livelihood. There are farming methods available which take care of the soil's fertility. This should make farmers think seriously about abandoning their harmful farming methods. They should act fast before it is too late to save the soil.

To further convince farmers like Mang Luping that natural farming methods really work, here's another farming method that will provide benefits for everybody. Study the picture on the next page.

What do you think of this farming method?
Do you notice the many kinds of crops planted?
Do you also notice that some animals are raised in
this farm? Do you think that it is possible for all of
these to exist in one farm?

Diversification or integrated farming is truly a remarkable farming method. In this method, nothing seems wasted. Even the crop residues or animal wastes are not thrown, but are used for other farm needs.

This farming method promotes the continuous natural fertility of the soil. It is a combination of the other acceptable farming methods previously mentioned.



As you can see, everything is kept inside the farm, except of course for the “produce” that is later sold to markets. But, what do you think is meant by “everything is kept inside the farm”?

Basically, it means that nothing is wasted. The crop residues are used for feeding the farm animals. It is suggested that there should only be a small number of animals so that feeding them will not be a problem later on. The animal wastes are then used as fertilizer for the crops. This farming method does not leave the soil bare and idle because you alternately plant crops between the seasonal ones and the ones that can be grown all year round.

The only disadvantage of diversification farming is that the yield or produce per harvest season is not as high as compared to regular farms that practice monocropping. This may be a concern for plant growers who are concerned about the income they can get from diversification farming. This concern is completely understandable when you look at the condition of many of our farmers all over the country.

If you were Mang Luping, which of the following would you choose?

1. Farming methods that:
 - ◆ have been in practice for many generations, but have been found to be harmful to the soil.
 - ◆ only temporarily give higher income because the diminishing fertility of the soil eventually results in lower crop yields, and therefore, lower income.

2. Farming methods that:

- ◆ have been practiced for many generations but are no longer used because farmers prefer farming practices that earn higher incomes even though the environment, especially the soil, is greatly harmed.
- ◆ provide farmers with a lower but much more stable income.
- ◆ maintain the soil's natural fertility, ensuring continuous activity and productivity for farms.
- ◆ are more environment-friendly.

So, which farming method would you choose? Would you choose Item 1 or 2? Write your answer in the space below. Explain why you chose that answer. You may ask for inputs or comments from people like Mang Luping. Their farming experiences are valuable and may help you answer the question.

Compare your answer with those in the *Answer Key* on page 25. You may show your answers to your Instructional Manager for additional feedback.



Let's Think About This

Will the worsening condition of the soil really affect our food supply? If we continue to use farming methods that destroy the soil, we will definitely face a problem with our food supply. What is more important, however, is that something can be done about it. Taking care of our soil resources now will not only ensure food for us and for the succeeding generations; it will also ensure a more livable environment for everybody.

You cannot just rely on people like Mang Luping to make sure that soil maintains its natural fertility. You are also responsible for the environment just like they are.

As a member of any community, what can you contribute to help the soil regain its lost fertility? You can ask the help of your co-learners, friends, family members or neighbors. Think of some activities that can help the soil regain its natural fertility. For example, you can start a planting project in your own neighborhood, or in areas where the soil is left bare and idle. The soil will definitely benefit from this.

You can write your suggested plan of action below. Remember: change starts with the little efforts made by each one of us. Do not think that there's nothing you can do for the environment. You have everything to gain by returning to the soil what it has been giving us all this time...life!

<p>Plan of Action for the Soil</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Compare your answer with that in the *Answer Key* on page 25.



Let's See What You Have Learned

Explain in your own words how the following farming methods can help the soil get back its natural fertility.

1. Mulching

2. Green manuring and cover cropping

3. Multiple cropping

4. Crop rotation

5. Diversification or integrated farming

Compare your answer with those in the *Answer Key* on page 26.



Let's Remember

In this lesson, you learned the following:

- ◆ Even though there are farming methods that have harmed the soil, there are other farming methods that can help bring back its natural fertility.
- ◆ **Mulching** is a farming method that allows the plant or crop residues left in vacant or open spaces to decay or decompose. The residues form a cover that protects the soil from harmful elements and maintains continuous activity in the soil.
- ◆ **Multiple cropping** is a farming method that encourages the use or planting of several crops at the same time. The different types of multiple cropping are: **intercropping, mixed cropping, relay cropping** and **multi-storey cropping**.
- ◆ **Crop rotation** is a farming method similar to multiple cropping. However, it is done by alternately planting several crops every other season.
- ◆ **Diversification** or **integrated farming** is a farming method which is done by combining many farming methods. The soil, in this farming method, is not left bare or idle. The soil's resources are maximized—not misused nor abused.



Let's Sum Up

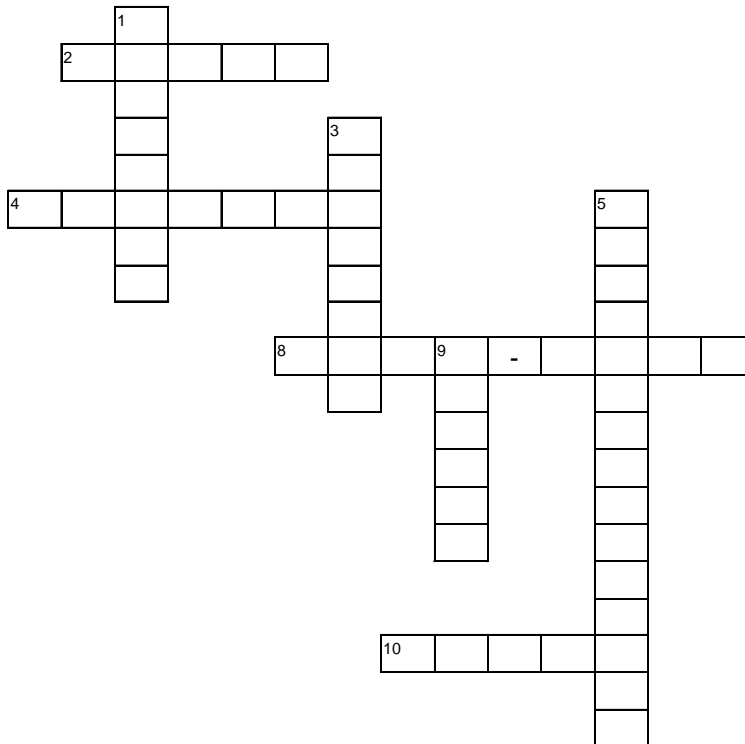
In this module, you learned that:

- ◆ The soil is a living organism. Like any living organism, it needs care and nourishment. To deprive it of nourishment would make it useless.
- ◆ Two absolute don't's in taking care of the soil:
 - Don't leave it bare or idle.
 - Don't burn the plants to clear the soil.
- ◆ Not all the tried and tested farming methods are soil-friendly. Some of them are even harmful to the soil and have contributed to soil degradation.
- ◆ Fortunately, there are existing soil-friendly farming methods that guarantee the soil's natural fertility for the use of our generation and the generations to come.



What Have You Learned?

Answer this crossword puzzle. Refer to the statements below it and on the next page.



Across:

2. It is a small part of the soil that is made up of organic matter.
4. It is used as a method for clearing the land for cultivation. It is also known as the slash and burn method.
8. It is a word that describes farming methods that are not harmful to the soil.
10. It means more than one or several (as in crops).

Down:

1. It is a soil-friendly farming method that allows plant or crop residues to decay or decompose in an open planting area. It ensures continuous activity in the soil and provides cover for the soil as well.
3. It is a farming method that is discouraged because it allows planting of only one type of crop.
5. It is a soil-friendly farming method that is practiced by combining the other farming methods like mulching, crop rotation, green manuring and cover cropping.
6. It is a harmful farming practice that involves setting fire to the plants.
7. It is one of the most important natural resources where plants grow.
9. The soil is a _____ organism.

When you are done, compare your answers with those in the *Answer Key* on page 27.

How did you do? If you got all the answers correct, very good! That means you understood the topic in this module. You can now move on to the next module.

If you had some mistakes, don't worry. Just review the parts of the module that you did not understand very well.



Answer Key

A. Let's See What You Already Know *(page 2)*

1. **Disagree.** Some farming methods are still harmful to the soil because they disrupt the natural activities or processes that occur within it. For example, burning, leaving the soil bare or idle, or using artificial fertilizers harm the soil.
2. **Disagree.** The soil is a living organism. Organisms and microorganisms present in the soil are involved in different processes that maintain the soil's fertility.
3. **Agree.** Most artificial, synthetic or man-made products are harmful to the environment, especially to the soil. For example chemical fertilizers may do the soil more harm than good. These synthetic products disrupt the natural processes in the soil and contribute to loss of nutrients.
4. **Agree.** The soil, like most living things, needs things other than water. It also needs air to break down its structure and form. It needs nourishment from decaying plant and animal matter. But, unlike other living things, the soil—if left alone—will survive on its own.
5. **Agree.** Examples of organisms and microorganisms present in the soil are: fungi, bacteria, algae, millipedes, insect larvae and worms. They all play different roles or are involved in different processes that ensure life in the soil.
6. **Disagree.** Microorganisms in the soil are too tiny to be seen by the naked eye. They can only be seen with the aid of instruments like a magnifying glass or microscope.
7. **Agree.** Erosion is the loosening and movement of the soil from one place to another. Abuse or misuse of the soil, like the use of harmful farming methods, dries up the soil resources. The soil then becomes useless and erosion may occur.

8. **Agree.** Most of the time, burning plants or other materials is harmful to the soil and to the environment. It kills organisms and microorganisms that help maintain the fertility of the soil. These organisms and microorganisms are also useful to other living things, therefore killing them would upset the natural processes in the soil.
9. **Disagree.** The natural fertility of the soil involves many processes. It takes a very long time for the soil to regain its lost fertility.
10. **Disagree.** Soil, water and air are equally important. Man benefits from all of them. The fact that they are exhaustible or can be lost should make us think of ways and means to conserve and save them for all generations to enjoy and use.

B. Lesson 1

Let's Review (page 7)

These are sample answers. Discuss your answers with your Instructional Manager for additional feedback.

The farming methods that destroy our soil resources will eventually make it very difficult for our farmers or plant growers to grow healthy plants or crops. Lower yields of valuable crops will not just have an effect on farmers' incomes, but on our food supply as well.

Another major consequence of these harmful farming methods is the serious damage it causes the environment. Much of our forest land has been destroyed so that the land can be used for cultivation. Not only that, the homes of different animals in these forests are affected—even destroyed. So, in recent years, there has been an increasing number of animals considered endangered or extinct.

Also, soil degradation deprives people of discovering plants that may have medicinal value. Many virgin forests all over the world have been destroyed due to industrialization and modernization.

The destruction of the soil results in the destruction of our natural resources, as well as the whole ecosystem. The sooner we do something about it, the better for the environment and for all us.

Let's See What You Have Learned (page 8)

1. soil
2. humus
3. living
4. farming methods
5. slash-and-burn
6. ploughing
7. pesticides or fungicides
8. nature
9. artificial fertilizers
10. monocrop farming

C. Lesson 2

Let's Try This (pages 11–12)

These are sample answers. Show your answers to your Instructional Manager for comments.

1. Mulching reduces erosion, which occurs when the soil is left bare or idle. By mulching, plant residues or crop parts are left on the soil, not only to serve as a protective cover, but also to ensure that soil processes or activities are continuous.
2. Mulching reduces evaporation. The mulch serves as cover which helps maintain the moisture in the soil. When the soil is covered, it is less exposed to the sun's heat.
3. The decaying mulch promotes the growth of organisms or microorganisms in the soil. These organisms and microorganisms are essential for the soil's nourishment and maintenance. These also provide life for other living organisms.
4. The growth of weeds is a sign that the soil is not healthy. A soil "fed" with mulch is healthier soil. This prevents the growth of weeds.

Let's Study and Analyze (pages 14–16)

These are sample answers. Show your answers to the Instructional Manager for comments.

I choose #2. I think I would have nothing to lose and everything to gain by considering the farming methods that are environment-friendly. The income I'll get may be relatively small but I will have a stable source of livelihood because I can be sure of the soil's constant fertility.

For me using a farming method that maintains the soil's fertility is more important than a high income. It is important for any farmer that his farm's productivity be sustained for as long as it can.

Let's Think About This (pages 16–17)

These are sample answers. Discuss your answers with your Instructional Manager for additional feedback.

Plan of Action for the Soil

Taking care of the soil is similar to saving the environment. Knowing this, I suggest the following plans of action as my contribution to save the soil resources:

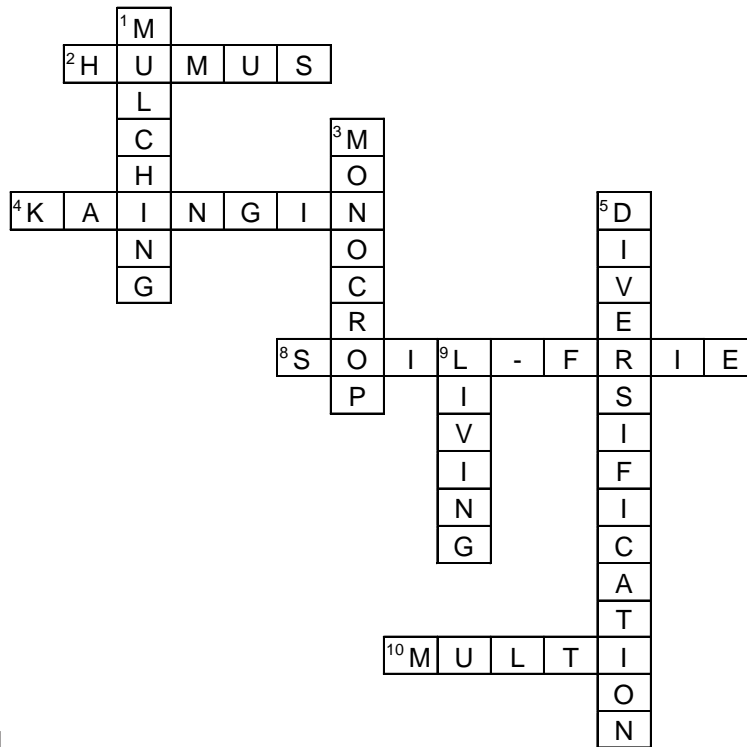
1. Encourage friends, classmates, co-workers and neighbors to grow plants and trees in vacant or open spaces. This will help the soil get back its natural fertility. This will also help prevent erosion and flooding.
2. Segregate garbage into those that decompose and those that do not. The materials which are biodegradable or those that decompose can be used as fertilizers. The non-biodegradable ones can be recycled or used again.
3. Write letters to the mayor, congressman, senators and government agency heads to urge them to support farming methods that are not harmful to the soil. By creating laws or programs that give support and help to farmers or plant growers who care for the soil, we can help the soil maintain its fertility.
4. Share knowledge about the ill effects of practicing harmful farming methods to friends, classmates, co-workers and neighbors. Encourage them to use farming methods that are not only good for the soil, but for the environment as well.

Let's See What You Have Learned (pages 17–18)

These are sample answers. Show your answers to your Instructional Manager for comments.

1. **Mulching** is a farming method that allows plant residues or crop fragments to rot, decay or decompose in open spaces or in fields. The resulting mulch serves as a cover for the soil. This method allows the soil to provide nourishment for itself and for plants and other living things. Mulching also prevents erosion and the growth of weeds.
2. **Green manuring and cover cropping** is a farming method similar to mulching. It also allows plant residues or crop parts to rot or decay. As plant parts rot or decay, they serve as fertilizers for the soil. This method assists the soil in maintaining its natural processes.
3. **Multiple cropping** is a farming method where several crops are planted at one time but are arranged differently. This helps prevent pests and diseases.
4. **Crop rotation** is a farming method similar to multiple cropping. In this method, however, the crops are planted alternately every other season. Changing the crops to be planted every season helps prevent pests and diseases.
5. **Diversification or integrated farming** is a combination of two or more effective farming methods. In this farming method, almost nothing is wasted. From food to waste, everything is used and consumed by each part of the farm.

D. What Have You Learned? (pages20–21)



Glossary

Artificial or synthetic fertilizers Man-made chemically manufactured fertilizers used to artificially replace the nutrients that are lost in the soil

Crop Agricultural plants in the fields

Cultivation To prepare soil, land, etc., for growing crops

Decomposition The decay or breakdown into simpler parts

Drought A condition where there is lack of rain for a long period of time

Hedgegrow A row of bushes, hedges or trees forming a boundary

Humus A small portion of the soil which is made up of decayed organic matter

Mulching A farming method where plant residues are allowed to rot in between spaces of plants, trees or crops

Plowing or ploughing To dig or turn over the surface of soil with a plow

Produce Food coming from crops or animal livestock

Slash-and-burn A farming method that burns forests or grassland to clear them for cultivation; also called *kaingin*

Residue What remains of something; what is left over

Soil The upper layer of the Earth where plants grow

Soil erosion The loosening, breaking down and moving of soil particles from one place to another



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