



The National
Orthodox School
Shmaisani

The National Orthodox School / Shmaisani

Subject: science / Biology

Name:

Study sheet -Title: Intensive farming / Fertilizers & Pesticides

Date:

Grade-Section: 8C all sections

Objective: To explain the meaning of intensive farming

What is Intensive farming?

Intensive farming includes using **Fertilizers** and **Pesticides** in order to increase the amount and quality of crops.



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Fertilisers

Fertilisers are chemical substances that are added to the soil to increase of the **quality and growth of the plants and to replace the minerals (Nitrogen/ Potassium/ Phosphorus)** that have been taken away (consumed) in the crop.

Fertilisers are added to the soil in calculated amounts. If too much is added, the plant will not use all the minerals so **they will cause soil and water pollution.**

There are two types of fertilizers:

	Inorganic Fertilizers	organic fertilizers
Made of	Manufactured chemicals such as ammonium nitrate ammonium phosphate and potassium chloride.	Wastes of farm animals and sewage.
properties	<ul style="list-style-type: none">• Give an instant supply of minerals.• Light in weight	<ul style="list-style-type: none">• It takes a long time for the minerals to be released.• Too heavy
How to be added?	Can be spread from airplanes and helicopter	Must be spread from a trailer attached to a tractor
When to be added?	Can be added any time without damaging the crop.	Before the crop is sown.

Pesticides

Pesticides are chemical substances that are used to kill any pest (unwanted organisms) that may affect the growth of the plants.

These pests may be plants (herbs/ weeds), fungus, worms and insects.

There are three different types of pesticides.

1. Herbicides.

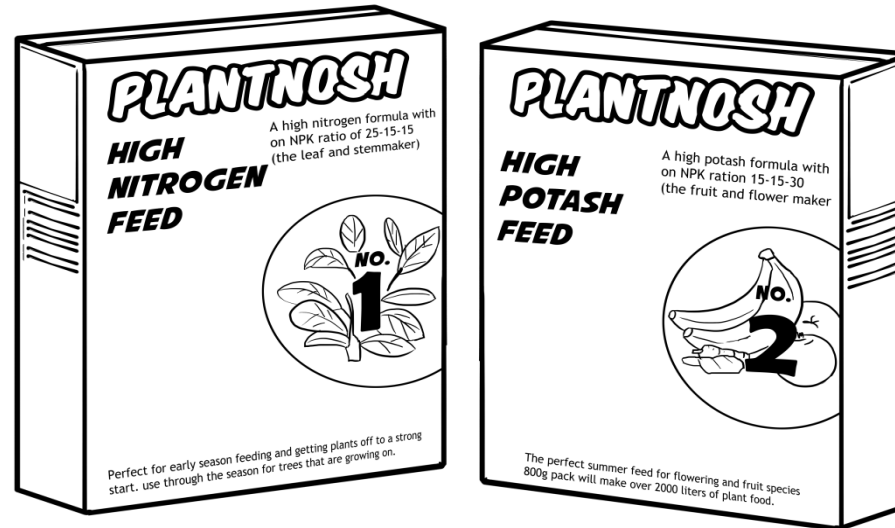
2. Fungicides.

3. Insecticides.

	<i>Herbicides</i>	<i>Fungicides</i>	<i>Insecticides</i>
<i>Purpose</i>	To kill unwanted weeds that compete with the crop on water, sun light and soil.	To kill fungus that may attack the roots.	They are used to kill the unwanted insects that may affect the plants.
<i>Types</i>	<p><i>Non selective:</i> It kills any kind of plants.</p> <p><i>Selective:</i> It kills only a certain kind of plants and leaves the crop plants unharmed.</p>		<p><i>Narrow spectrum</i> It kills only one kind of insects.</p> <p><i>Broad spectrum</i> It kills wide range of insects, not only those that attack the plant, but also their predators.</p>
<i>When to be used?</i>	<p><i>Non selective:</i> On clear areas (because it kills all kinds of plants)</p> <p><i>Selective:</i> Can be used any time during growing the crop.</p>	<p>Seeds may be coated to protect them before they germinate.</p> <p>Can be also applied to the soil before planting the seeds.</p>	

Check your understanding :

Q1. Look at these boxes of fertilizers.



1 Which of the two fertilizers contains more nitrogen? **1**

2 What does the plant use nitrogen for?

Nitrogen is used to make proteins , protein is needed to build new cells / or growth

3 Which of the two fertilizers contains more potassium? **2**

4 What does the plant use potassium for? It is needed for photosynthesis and respiration

5 Which fertilizer would you use for:

- a young seedling **1**
- a flowering plant **2**
- a fruit tree during the summer fruiting season **2**

Question 2 :

Complete the missing in the table below :

	Herbicides	Fungicides	Insecticides
Purpose	To kill unwanted weeds that compete with the crop on water, sun light and soil.	To kill fungus that may attack the roots.	They are used to kill the unwanted insects that may affect the plants.
Types	<p>Non selective: It kills any kind of plants.</p> <p>Selective: It kills only a certain kind of plants and leaves the crop plants unharmed.</p>		<p>Narrow spectrum: It kills only one kind of insects.</p> <p>Broad spectrum It kills wide range of insects, not only those that attack the plant, but also their predators.</p>
When to be used?	<p>Non selective: On clear areas (because it kills all kinds of plants)</p> <p>Selective: Can be used any time during growing the crop.</p>	<p>Seeds may be coated to protect them before they germinate.</p> <p>Can be also applied to the soil before planting the seeds.</p>	

Question 3 :

Carla has a small garden that has different types of plants , she noticed some unwanted weeds and some strange insects.

What can she do to keep her plants safe : Tick two boxes :

She can add fungicides

She can add non-selective herbicides

She can add selective herbicide

She can add narrow spectrum insecticide

