



## English language for agricultural majors

Dr. Sayed Gebril

Lecture 9, 10

**Unit 9 –The Control of Weeds and Plant Diseases**



<sup>1</sup>In crop production the control of **weeds**, **diseases** and **pests** is essential to obtain high **yields**. <sup>2</sup>All three may be controlled by **sound farm practices**. <sup>3</sup>These include the choice of **clean seed** and the growing of **varieties** of crop which can **resist diseases**. <sup>4</sup>They also include careful cultivation both **pre-sowing** and **post-sowing**, and the use of **chemicals**. <sup>5</sup>Weeds reduce crop yield on account of the fact that they **compete with crops** for water, **soil nutrients** and light.



<sup>6</sup>They also make **harvesting** difficult. <sup>7</sup>Most weeds are **agressive** and **invasive**, they **grow quickly** and **spread far** and so are **difficult to get rid of**. <sup>8</sup>One recommended way of eradicating many persistent weeds is first to plough up the roots and **underground parts** of the plant. <sup>9</sup>Then the soil may be **cultivated lightly, rotavated**, on one or more occasions after the first ploughing.



<sup>10</sup>The principal reason for cultivating the soil is to kill the weeds. <sup>11</sup>Weeds may also be killed by means of chemicals which have the collective name of **herbicides**. <sup>12</sup>Weed-killers are of two basic types: **selective** and **non-selective**. <sup>13</sup>The former remove certain weeds from certain crops. <sup>14</sup>For **rice** we can spray the herbicide 2:4 D or MCPA over the **whole crop** at **low concentrations** (1/2 – 1 lb. Per acre).



<sup>15</sup>The rice will not be affected, but many of the rice weeds will be killed. <sup>16</sup>Non-selective weed killers may be used for removing all **vegetation** e.g. **brush killers**.

<sup>17</sup>They must be used extremely carefully for the simple reason that they will **eradicate** all plants on contact – which include the crop itself. <sup>18</sup>They are usually used **before sowing** or **before the emergence** of the crop itself.



<sup>19</sup>Plant diseases are caused by organisms which use the crop plant as a host. <sup>20</sup>These are mainly micro-organisms e.g. fungi, bacteria and viruses. <sup>21</sup>These parasitic micro-organisms live off food nutrients in the tissue cells of the plant. <sup>22</sup>They frequently kill the host tissues, and either the whole plant or a part of it is damaged and killed. <sup>23</sup>Micro-organisms are reproduced and spread by minute bodies such as spores, fungi and bacteria.



<sup>24</sup>Wind, water, **diseased plants**, **cutting**, **tubers**, animals, men and insects are some of the means whereby disease is **disseminated**.

<sup>25</sup>It is very difficult to kill the fungi and bacteria, or to make the virus which is inside the host plant **inactive**.

<sup>26</sup>But the **evolution of plant varieties** which can **resist disease** has completely changed methods of **disease control**.



<sup>27</sup>A number of varieties has evolved and are now **available to farmers**. <sup>28</sup>So the control of plant diseases has increasingly become **a matter of prevention**.

e) By using the plant as a 'host' bacteria cause plant diseases.

f) Plants are damaged and killed because micro-organisms live off the tissue cells of the plants.

g) A number of disease resistant plant varieties have been evolved.





<sup>29</sup>Fungi, which attack the **aerial parts** of the crop, can be controlled by means of **fungicides**. <sup>30</sup>These are **sprayed** or **dusted** on to the plant surfaces. <sup>31</sup>They should be applied before the plant is **seriously damaged**.

<sup>32</sup>Sometimes spray and dust is applied whether disease is present or not. <sup>33</sup>In any case, it is necessary to **examine crops frequently** for **signs of disease**.



<sup>34</sup>Soil-borne diseases are much more difficult to control. <sup>35</sup>There are various ways of treating the soil. <sup>36</sup>One way is to use chemicals that easily change into a gas or vapour, which enter the soil and kill the harmful organisms. <sup>37</sup>The soil is covered with polythene sheet and the volatile chemical is injected into the soil. <sup>24</sup>After about 24 hours the sheet is removed and the soil allowed to air for few days before use.



## II- LANGUAGE IN USE

### EXERCISE A *the identification and description of diseases*

*Part 1 Crop disease can be identified by:*

- Name and the organism cause the disease
- ( the same way as we used definition in unit 1)

Rice blast is a fungus disease (which is) caused by the organism  
*Piricularia oryzae*

Or

Blast in rice is a fungus disease (which is) caused by the  
organism *Piricularia oryzae*



## II- LANGUAGE IN USE

EXERCISE *A the identification and description of diseases*

*Part 1 Crop disease can be identified by:*

The fungal organism *Piricularia oryzae* is the cause of blast in rice

*Or*

*Piricularia oryzae* is a fungal organism which causes blast in rice

*Or*

The cause of blast in rice is the fungus/fungal *Piricularia oryzae*



## II- LANGUAGE IN USE

### EXERCISE *A the identification and description of diseases*

crop	Name of the disease	Causal organism
Rice	Blast	Fungus: Piricularia oryzae



## II- LANGUAGE IN USE

EXERCISE A *the identification and description of diseases*

Part 2 *statement describing the symptoms of particular disease*

- *Blast in rice is a fungus disease caused by the organism *Piricularia oryzae* . Brown longitudinal spots appear on the leaves. The spots on the stem and grain are darker in colour.*
  
- *The fungal organism *Piricularia oryzae* is the cause of blast in rice. Brown longitudinal spots can be seen on the leaves. The spots on the stem and grain are darker in colour.*
  
- *To make a description of symptoms*
  - a) *Definite and indefinite articles;*
  - b) *Forms of verb be and appear, can be seen.*
  - c) *And*



## II- LANGAUGE IN USE

### EXERCISE B *Recommendations*

*After identifying and describing the disease, we can make a statements recommending particular control measure.*

*- We can express recommendation in various ways:*

*Blast in rice is a fungus disease caused by the organism*

**Piricularia oryzae* . Brown longitudinal spots appear on the*

*leaves. The spots on the stem and grain are darker in colour. As a*

*control measure the crop can be sprayed with 1% Bordeaux*

*mixture . To avoid the disease, resistant crop varieties should be*

*used.*



## II- LANGAUGE IN USE

### EXERCISE B *Recommendations*

crop	Name of the disease	Causal organism	symptoms	Control measure
Rice	Blast	Fungus: <i>Piricularia oryzae</i>	Brown longitudinal spots on leaves. spots on stem and grain darker in color	Spray with 1% Bordeaux mixture. Also/or grow resistant varieties

Homework table in page 83