College of Agriculture Engineering Sciences

Soil and Water Department

3rd stage

Irrigation System Mr. Ismael Omar

Lecture (1) 2023-2024

Type of irrigation system

What is Irrigation?

Irrigation is the artificial application of water to the soil through various systems of tubes, pumps, and sprays.

Types of Irrigation Systems

There are many different types of irrigation systems, depending on how the water is distributed throughout the field. Some common types of irrigation systems include:

1. Surface irrigation systems
2. Localized irrigation systems
3. Sprinkler irrigation systems
4. Sub- irrigation systems

1- Surface irrigation systems

Surface irrigation, also known as gravity irrigation, is the oldest form of irrigation and has been in use for thousands of years. In *surface* (*furrow, flood*, or *level basin*) irrigation systems, water moves across the surface of agricultural lands to wet it and infiltrate it into the soil.

Furrow surface irrigation

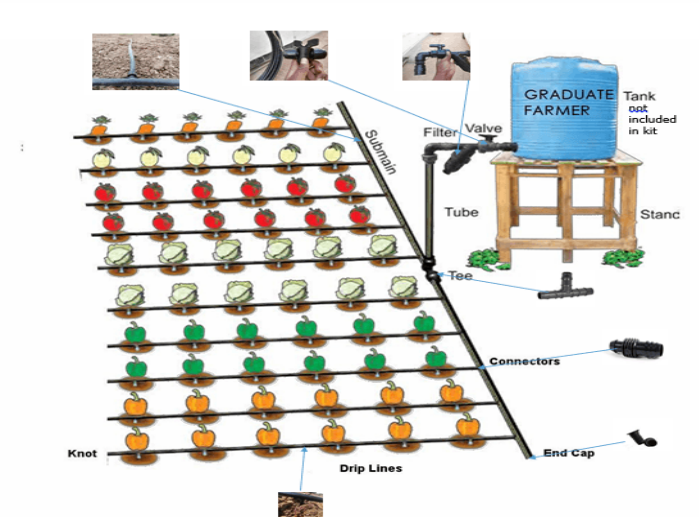
Basin surface irrigation

2- Localized irrigation system

localized irrigation, sometimes called **micro-irrigation**, **low-volume irrigation**, or **trickle irrigation** is a system where water is distributed under low pressure through a piped network and applied as a small discharge to each plant.

Drip irrigation system

A type of localized irrigation in which drops of water are delivered at or near the root of plants. In this type of irrigation, evaporation and runoff are minimized.



3- Sprinkler irrigation

Sprinkler irrigation is a method of applying irrigation water that is similar to natural rainfall. Water is distributed through a system of pipes usually by pumping.

Center pivot irrigation

Center pivot irrigation is a mechanized sprinkler system that irrigates crops in a circular pattern. In this type of system, a long pipeline rotates around a central pivot point. This system is common in flat areas.

4- Sub-irrigation system

Sub-irrigation applies water below the soil surface to raise the water table into or near the plant root zone.