



## **Demo plot visit Program IrWa Project – West Bekaa**

Date: October, 2007

Place: Litani River Authority Training and Extension  
Service Center Khirbet-Kanafar - Bekaa

### **Index:**

- Number of farmers
- Number of visits
- Total number of participants
- Dates
- Methodology of work
- Topics tackled
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### **Organization of the visit**

#### **1. Number of farmers per visit:**

Each visit was composed of around 20 farmers.

#### **2. Number of visits:**

Four Farmers visits to demo plot were implemented during October and the first week of November 2007

#### **3. Total number of participants:**

78 farmers benefited from the visits to the demo plot

#### **4. Dates:**

Visits were carried out on October 25, 26, 30 and 31, 2007

#### **5. Methodology of work:**

Field visit; where the relevant topics of the demo plot were illustrated to farmers.

#### **6. Topics:**

##### **a. The use of gun vs. drip irrigation on corn**

See appendix I.

##### **b. Filtration technique and maintenance when irrigating with the\_LRA network**

See appendix I.

**c. The use of T-tape and different sprinklers spacing (18x18 and 12x18) on potato**

**c.1. T-tape**

T-tape shows to complicate the cultural practices on potato mainly chemical treatments, weeding and earthing up; for these practices it is necessary to use a tractor, which damages the T-tape. The use of a GR drip irrigation system, could be more resistant for these cultural practices.

**c.2. Sprinklers**

- Possibility of irrigating potato with sprinklers starting early in the morning.
- Irrigation scheduling depends on soil, growing stage and climate. It's not a rule to irrigate potato for 12 hours each 8 to 10 days. Irrigation amount is low in the beginning of the season and it increases to reach a maximum at full crop cover.

**d. How to reduce water losses and increase the efficiency of the irrigation network:**

- Control leakage.
- Use clean filters.
- Use uniform nozzles for sprinkler irrigation system.
- What are the advantages of an efficient system (figures a and b, appendix I)
- Use the proper number of drippers or sprinklers according to the proper available hydrant discharge.

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### Appendix I: Corn Demo Plot

#### Objectives

- To show the effect of the irrigation system (drip, gun) on corn growth uniformity.
- To demonstrate the importance of the use of filtration under drip irrigation system.

#### Methodology

Field visit, will illustrate the following:

- The drip irrigation system, the fertilization and the filtration kit.
- The filtration technique and maintenance when irrigating with LRA network.
- The gun irrigation system.
- The irrigation uniformity of each system.

#### Results

The relevant results observed until the date of visit are the following:

- The gun can be used on LRA irrigation network (pressure = 5bars)
- The traveler gun cannot be used due to a head loss of 1 bar in the plastic pipe and another 1 bar in the turbine.
- Higher irrigation uniformity is observed under drip irrigation system when compared to the gun. This can be seen on plant height uniformity in the Figures a and b.



Fig. a: Corn irrigated with drip.



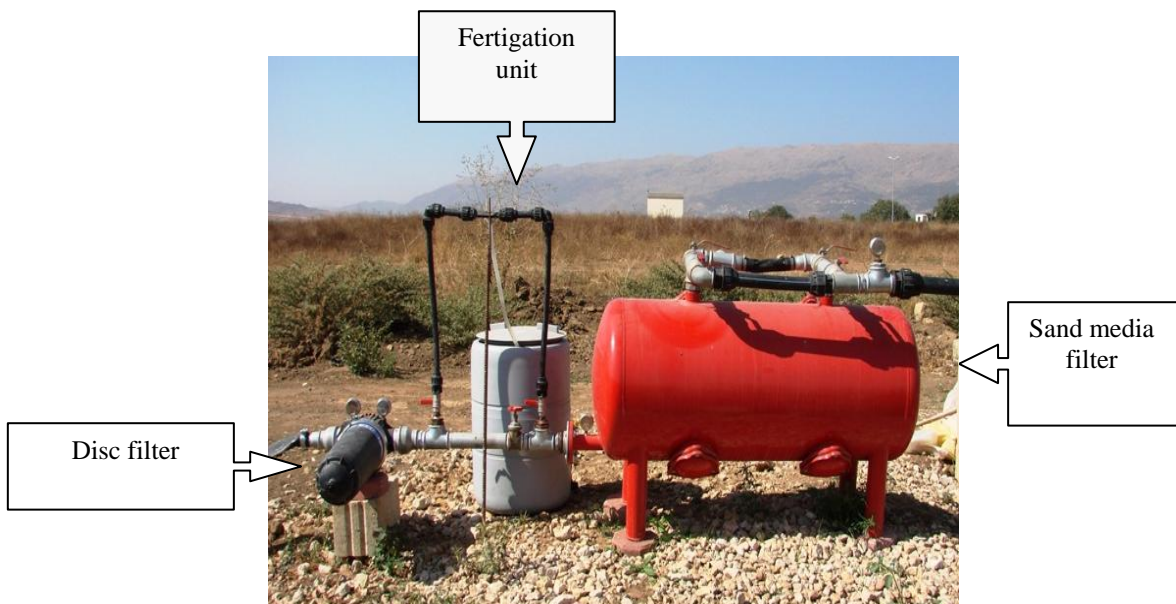
**Fig. b: Corn irrigated with gun.**

When irrigating on LRA network, in order to obtain similar results under drip irrigation system, it is recommended to use the proper filtration kit (Figure c), and to do the proper filter maintenance:

when the head loss increases too much (0.5 bar), it is time to clean the sand media filter through a back-flush (Figure d) and to open the disc filter, to withdraw the cylinders of piled up plastic discs and to wash them in water (figure e).

The low uniformity results observed under the gun irrigation system are due to:

- The higher irrigation water loss by evaporation.
- The effect of wind speed on water distribution.



**Fig. c: Filtration and fertigation kit.**



**Fig. d: Back-flush of sand media filter.**



**Fig. e: Cleaning of disc filter.**