Study of the causes of unripe Al Maamoura lemon fruits indistrict

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Abstract

We made a timetable for the work. So, we started with the field visits of the study site that we had chosen. We examined the area and recorded everything surrounding it and the factors affecting it, and we took some of soil samples. Then, in Al-Maamoura area; we went to the source of the water that waters it, and we found a well, it was a certain distance from the farm. After that, we went to Al-Basra and we check the farm. In Al-Maamoura, we recorded the surrounding factors and we took samples of the soil and water that irrigated it. We searched for the source of that water and we discovered that it was a well water. After that, we went to the school laboratory and we applied the soil and water protocols for the two areas (Al-Maamoura and Al-Basra).
We noticed that salinity and acidity significantly affect the two regions. After that, we conducted interviews with farmers to find out other reasons that have an impact. The farmers agreed that the lack of water sources in the farms is the most important reason that caused the lemon tree fruits not to ripen, as lemons need large amounts of water to saturate their soil and bear fruit. This is the main reason for the plant's fruits not to ripen, as the second region has a water source next to it. It waters it daily in large quantities; benefited from a study conducted by Umm Al-Hakam School, entitled: Study of the Reasons for the lack of flowering of mangos tree. One of the most important recommendations that must be made is to find another source of water in the Al-Khadra area, so that the farms can be watered in sufficient quantities to ripen.

Research methods

At the **first**, we thought about our town, is there any problem that the people of the area are suffering from? So, we asked some questions to some of the students and we discovered that the people are suffering from the problem of the lemon tree not ripening in a certain area, which is AlMaamoura. Then, we interviewed the locals to determine the reasons for this. After that, we divided the team into two groups and searched for the area where lemons ripen. Then, we discovered that it is Al-Basra area. So, one group went to that area to study it and the other group went to the targeted study site.
Second: Study site
(Al Dhahirah Governorate-Ibri-The village of Driz)
Al-Basra area and Al-Maamoura area

Third: We determined the work of each student in the team and the role she will play, through a schedule that specifies the work for each student and the protocols that will be implemented later.

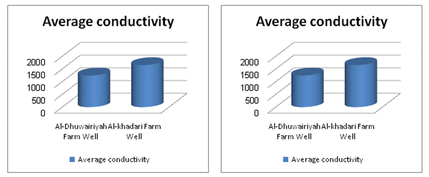
Research Questions

* What are the reasons for the lack of ripening of lemon fruits in the Al-Maamoura area in Ibri?
* What are the external factors that affect the lack of ripening of lemon tree fruits in the Al-Maamoura area in Ibri?
* Is there any difference in soil properties between Al-Maamoura and Al-Basra? Explain the reason?
* What are types of soil in both areas?

Introduction

The people of Al Maamoura village are suffering when planting a lemon tree. It grows and bears fruit, but it does not ripen, and .sometimes the plant dies while it is still young
Lemon is a sour fruit that Oman is famous for. It has great benefits .and contains vitamin C. It is used in food and salads
Our aim is to investigate the climatic factors that affecting the ripening of lemon trees in the Al-Khadari area in the farms of the Wilayat of Dhank, despite their ripening in all the villages of the region.
We also aim to identify the reasons for the lack of ripening of lemon fruits in the Al-Maamoura, and to identify the characteristics of the soil and compare these characteristics with the characteristics of an area characterized by the maturity of this tree and we identify the type of soil (clay or sand) and its relationship to maturity, by applying water and soil protocol.

Conclusion



Figure(1) Salinity and conductivity data for the two water samples
((1: Al-Maamoura area, 2: Al-Basra area

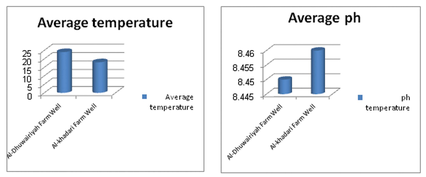


Figure (2) Acidity and temperature data for the two water samples
((1: Al-Basra area ,2: Al-Maamoura area

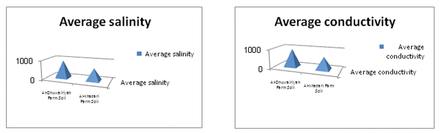


Chart (3) shows the conductivity and salinity data for the two soils
(Al-Basra area, 2: Al-Maamoura area :1)

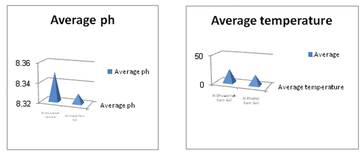


Chart (4) shows the temperature and PH of soil samples
(Al-Basra area, 2: Al-Maamoura area :1)

Conclusion

In this research, we tried to identify the reasons for the lack of maturity of lemon trees in the Al Maamoura farms. We conducted a practical experiment (examining two samples of water and soil from .Al-Maamoura and Al-Basra areas) and made field visits
:We have reached
External factors such as the amount of water consumed when irrigating crops is most influential factor in .the immaturity of lemon plants, as well as the qualities of the water used to irrigate them
.So, we conclude that Al-Basra soil has properties that differ from those in the Khadari area
.Properties of Al-Basra soil: Clay soil with marked alkalinity -
.Properties of Al-Basra water: Moderate alkalinity and low salinity -
.Properties of Al-Maamoura soil: Highly saline and highly acidic soil -
.Properties of Al-Maamoura water: Moderate alkalinity and high salinity -
We can apply the search again; So, we bring a sample from Al-Maamoura and Al-Basra soil. Then, we .plant it in the school and watching the growth and flowering and add a study of the vegetation protocol
During these times, all segments of society must work hard and diligently to find solutions to help this tree .mature
We demand the responsible agencies of agricultural development to provide everything that farmer need in that area, and to work on eliminate the problem of scarcity of irrigation water due to the diversity of plants .in the amount of water they need to grow
We also ask the people of that area to create another water source to irrigate the crops, so that the amount .of water is large enough for all the trees to absorb the water they need to bear fruit
We also propose to establish an office affiliated with the Ministry of Agricultural Development in that area. So, any farmer can solve the troubles on his farm after discussion them with the specialists. They also have to teach the farmers how to use the devices to know the acidity and salinity of the soil to avoid wasting .time trying to ripen the plants

References

Q.Ibrahim-Water crisis in the Arab world, Modern Book House

A.Ismael, Abu Al-Fida-Interpretation of the Great Qur'an (Ibn Kathir's Interpretation) (Tayyiba Edition), Good house

a team GLOBE Environmental Scientific Committee of the Central Team, Featured Research Booklet 2018

Ministry of Education Science book for the fifth grade -Edition2017\2018

Ministry of Education Science book for the seventh grade -Edition.2017\2018

Ministry of Education, Science Book for the Eighth Grade - Edition.2017\2018