

Study the causes of wild berries plant (fresaide) growth stopped and Withered stems and leaves in the wilayat of Dhank (Al-Nahda district)



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- Research questions:**
- What are the causes of growth stopped and Withered stems and leaves of wild berries in the neighborhood of Al-Nahda?
 - How does Masarat water affect the growth of berries?
 - Does water salinity affect the growth of berries?

Through the previous questions, we will start our research and employ all the data, discuss the results and answer every question we asked previously to discover the factors that affected the death of wild berry in the district of Al-Nahda, after comparing it to another region located in the same town.

Summary: -

This research aims to Study the causes of wild berries plant (fresaide) growth stopped and Withered stems and leaves in Al-Nahda district The research questions were as follows:

- What are the causes of growth stopped and Withered stems and leaves of wild berries in the neighborhood of Al-Nahda?
- How does Al Masarat water affect the growth of wild berries plant?
- Does water salinity affect the growth of wild berries plants?

We made a time plan for the work, so we started with a visit to the study site that we took and examined the neighborhood of Al-Nahda and recorded everything surrounding it and the factors affecting it and we took samples of the water and we went to the source of the water that is watered with and we recorded the surroundings. It turned out that the region is higher by a small percentage than Al Dhohaihiya village. Then we took samples of the water and we searched for the source of that water and discovered that it was watered from a well inside the farms. We went back to the school's laboratory and applied the water protocols. We reached the following: (That the plants in Al Dhahaiyrah region have a longer life cycle than the plants of Al Nahdah neighborhood due to the salinity of Masarat water). Then we did interviews with farmers to find out other reasons that might have an effect. The farmers' opinion agreed that the salinity of Masarat water is one of the reasons for of growth stopped of wild berries in Al-Nahda district.

search methods:

First: The research plan:

In the beginning, we thought about a region in our town, is there any people in the village suffering from it? So we did some questions for some students, and we discovered that the people of the village suffer from the problem of the death of wild berries in a specific area which is the neighborhood of Al-Nahda, and then we did several interviews with the people of the region to identify the reasons leading to the growth 'wild berry and why did it stop, and then we divided the team into two groups and we Search for the area in which the berry plant grows, we discovered that al Dhohaihiya region is the one where the berry plant grows, so a group went to that region to study it and another group went to the neighborhood of Al-Nahdah (the target study site), so we explored the two regions and took the plant specifications for both regions And samples from a Water which is watered by those farm at both locations, we took the samples to the school laboratory, and we have implemented the protocol of water and vegetation protocol to discover the causes that keep the berries from growing basically why did it stop.

And get to know the type of water in both sites and know the reasons that prevent the growth of wild berry plant on the farm and the salinity and acidity of the water. After writing down the data by the team members we went after a period of time to the two sites and we studied the external factors surrounding the site to discover other reasons that may have prevented the plant growth. We searched for the source of water that irrigates the two regions and the amount of water that irrigates the plantations and the height of the two sites above the sea surface, since it could be possible height to have an effect and the sun's rise to sunset, because of the possibility of being affected by the amount of light absorbed by the crops, then we searched for various references to discover other reasons that could prevent wild berry plant growth.

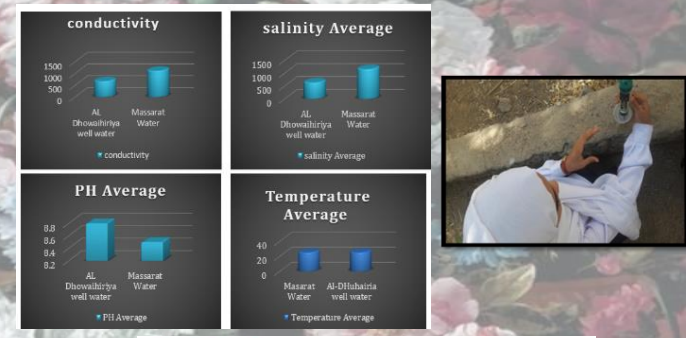
| comparison | Salinity Average | Conductivity Average | Ph Average | Temperature Average |
|-------------------------|------------------|----------------------|------------|---------------------|
| Masarat Water | 1161 | 1111 | 8,55 | 25 |
| Al-DHuhairia well water | 639 | 668 | 8,88 | 25 |

Schedule (1) to search by the proposed time plan

| Months | Time period | Objectives to be implemented |
|------------|-------------------|---|
| January | January 2021 | Choose a research topic |
| | January 2021 | Collect information related to the research |
| February | February 2021 | Field visits to the research site and other sites |
| | February 2021 | Making vegetation and water protocols |
| | February 2021 | Results, writing results and recommendations |
| March | March 2021 | Review the final research and production |
| | March 2021 | Research poster design |
| March 2021 | Send the research | |

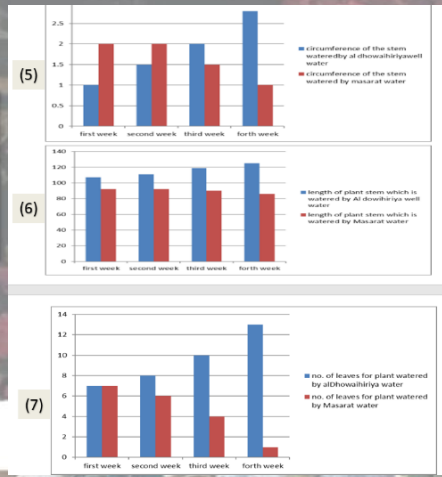
| compariso n | Leg circumference | | Leg length | | Number of sheets | |
|----------------|--|--|--|--|--|--|
| | The plant that is watered by a well water (Al Dhohaihiya) | The plant watered d with Masarat water | The plant that is watered by a well water (Al Dhohaihiya) | The plant watered d with Masarat water | The plant that is watered by a well water (Al Dhohaihiya) | The plant watered d with Masarat water |
| The first week | 1 | 2 | 107 | 92 | 7 | 7 |
| second week | 1.5 | 2 | 111 | 92 | 8 | 6 |
| Third week | 2 | 1,5 | 119 | 90 | 10 | 4 |
| Forth week | 2,8 | 1 | 125 | 86 | 13 | 1 |

- Data of water protocol for Masarat Water**
- Has large salinity which affect the plant (wild berry)
 - the water salts the soil and makes it unsuitable for cultivation, and it is considered a type of desertification
 - PH (8.55), salinity (1161)
- Data of Plant cover protocol which waters Masarat Water**
- The effect of the plant was evident from the third week on which it got affected in (plant height, width and number of leaves).
 - The length of plant in the first week (92), last week (86)
 - the width of the plant in the first week (2), last week (1)
 - Number of leaves in the first week (7), last week (1)
- Data of water protocol for Al Dhohaihiya well water**
- salinity Average (639) and conductivity Average (668).
 - PH Average (8.88) and temperature Average (25)
- Data of Plant cover protocol which waters AL Dhohaihiya well water**
- It turned out that the water of Al-Dhohairia well had more effect on the plant because the new leaves had grown
 - Length of plant in the first week (107) and Last week (125)
 - Length of plant in the first week (1) and last week (2)
 - Number of leaves in the first week (7) and Last week (13)



Second: The study site:

The plan of this research was implemented in the Sultanate of Oman - Al Dhahira Governorate - Dank Province, where the wild berry plant was planted in the school garden and the vegetation protocol and water protocol were applied. Two sites were also visited to implement the water protocol. The maps below show this geographical area.



Conclusion:
We have tried in this research to identify the causes of the death of wild berries in the neighborhood of Al-Nahda, so we as students experimented with a process (by examining two water samples from Al-Nahda and Al-Dhohaihiyah) as well as making field visits.

We reach the following:
External factors such as the salinity of Masarat water is high. And through that we conclude that the water of the Al-Nahda neighborhood has properties that differ from those of the water in the Al-Dhohaihirah region:

Al-Dhohaihiya water features: high alkalinity and low salinity.
Water characteristics of Al-Nahda: low alkalinity and high salinity.

We can apply the research again so that we can collect a sample from the neighborhood water of Al-Nahda and Al-Dhohaihiyah and grow it in school soils and keep watching the growth and flowering of plants, and apply the water protocol and the vegetation protocol.

Through these results, society must work hard and diligently to find solutions to help this tree grow.

Suggestions:
We also suggest to agricultural institutions to provide farmers with solutions to reduce the salinity of irrigation water, and we suggest to the people of Al-Nahda to make a water source so that the salinity of the water is equal to help in the growth of different plants.

Recommendations:
We also recommend agricultural institutions to create awareness and training workshops for farmers so that they have the appropriate awareness regarding cultivation.

| Question | Used Vegetation protocol | Answers |
|----------|--------------------------|--|
| 1 | Vegetation protocol | Because Masarat water has much salinity more than what wild berry plant can bear. The height of area above the sea surface level |
| 2 | Water protocol | Decrease leaves number, circumference, length of the stem which lead to the ease of the growth stopped of the plant. |
| 3 | Water protocol | Yes, because the wild berry plant does not bear the salinity of Masarat Water. |

Books:

- The seventh grade science book - Ministry of Education - Edition 2017/2018
- Eighth grade science book - Ministry of Education - Edition 2017/2017
- Dr. Al-Mutlaq - Nature Extender for Young People - Library of Lebanon Publishers - Year - Deserts - 66,67.
- Dr. Mai Muhammad Al-Wahsh - Encyclopedia of Botany - Dar Degla - 2011 - Primary growth in roots - 102

an article from the internet:

- AL-mode- Wednesday-November-2019
<https://mawdoo3.com/%D9%85%D8%A7%D9%81%D9%88%D8%A7%D8%A6%D8%AF%D8%A7%D9%84%D8%AA%D9%88%D8%AA%D8%A7%D9%84%D8%A8%D8%B1%D9%8A>

Examples of outstanding researches winning at the level of the Sultanate for the academic year 2017/2018 - Sunday-14-September-2018 - The Scientific Committee of the Central Team, GLOBE Environmental Program

- Web-Tape-Sat-9-Jan-2021 AD
https://www.webteb.com/nr/infocarts/fruits-juices/%D8%AA%D9%88%D8%AA%D8%B7%D8%A7%D8%B2%D8%AC_09190