

# search title/ (Rainfall variation and its effect on the cultivation of Alonca in the city of Sabya)

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## Abstract

This study aims to know the effect of rainfall variation on the cultivation of Alonca plant in the city of Sabya. From here, we began to propose the following:

### Research question and hypothesis:

Does the variation in rainfall affect the cultivation of the Alonca plant in the city of Sabya?

### Hypothesis:

The variation in rainfall affects the cultivation of the Alonca plant in the city of Sabya

I used the descriptive survey and observation method and prepared a questionnaire about the effect of the lack of rain on the cultivation of the Alonca plant in the city of Sabya.

Results: There is a direct relationship between rainfall variation and the cultivation of the Alonca plant. The lower the rainfall, the lower the cultivation of the Alonca plant.

### Conclusions:

There is an effect of rainfall variation on the cultivation of the Alonca plant, and rain is considered one of the most important factors affecting the cultivation of the Alonca plant.

## Research Question

- Does the variation in rainfall affect the cultivation of the Alonca plant in the city of Sabya?
- Is there a relationship between the lack of rainfall and the lack of cultivation of the Alonca plant in the city of Sabya?

## Introduction

The phenomenon of rain interruption and variation is one of the major problems that arid and semi-arid regions suffer from, because it has a negative impact on rain-fed agriculture. The city of Sabya suffers from this phenomenon. The study area includes most of the cultivated lands, and agriculture depends on rainwater and groundwater. This study aims to know the effect of interruption. Rainfall on the cultivation of the alonca in the city of Sabia, and from here we began to suggest the following.

## Research Methods

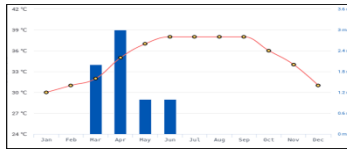
### Materials and method:

#### Tools:

GLOBE devices (GPS - pen - paper - Internet - computer - cloud chart - rain gauge) Globe Environmental website. The questionnaire Preparation of the study tool: The research questionnaire was constructed, and in its final form it consisted of (5) paragraphs. The questionnaire was distributed to a random sample



Tools used and location (Fig. 1)



Rainfall variation in the region (2)



Pictures of plants in the rainy season (Figure3)



A picture of a plant in the dry season (Figure 4)

Steps: We used observation and the descriptive survey method.

We used the GLOBE website and devices to take data and determine the location. (Figure 1) The variation of rainfall in the region and a visualization of data for the location of Al-Mutta'b School (Figure 2)

The graph shows the variation in rainfall in the city of Sabya. The rainfall rate is observed to increase over the months. We can notice that in June the rate was constant until September, and then the rainfall rate decreased in the remaining months.

Through observation, I noticed that agriculture increases during the rainy season in the city of Sabya, which is famous for growing seasonal crops. A number of photos were taken in two different seasons in terms of rainfall variation, and I noticed the difference between them as in (Figure 3-4).

## Results

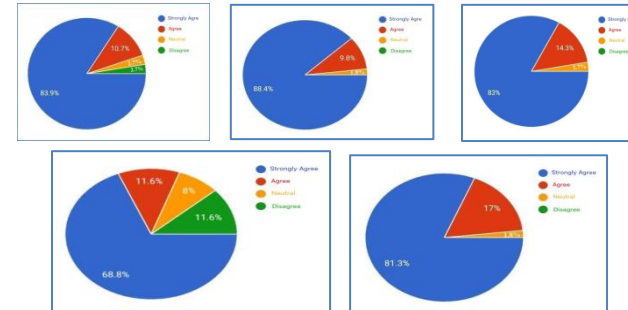
Then the researcher used the questionnaire Show results:

From the table and the statistical drawing, we note the percentage of the degree of approval in the questionnaire study tool

Table No. (1)

paragraphs	descent				SMA	Total
	Strongly Agree	Agree	Neutral	Disagree		
1 Rain affects agriculture	83.9%	10.7%	2.7%	2.7%	80%	100%
2 Rain is an important factor for growing trees	88.4%	9.8%	1.8%	0%	80%	100%
3 There is damage due to rain interruption	83%	14.3%	2.7%	0%	80%	100%
4 Rain has a negative effect on the plant	68.8%	11.6%	11.6%	8%	80%	100%
5 There is a relationship between rain and plant growth	81.3%	17%	1.8%	0%	80%	100%

Discuss and explain the reasons/results related to the study questions and discuss them as shown through graphical forms..



The results during the statistical analysis highlighted some important matters: We found that the percentage of support in the opinion that rain affects agriculture was strongly estimated at 83.9%. There is a strongly agreed percentage of respondents who answered that rain appears to be an important factor for planting trees, estimated at 88.4%. The percentage of support in the opinions that there are damages due to rain interruption was estimated at 83%. The percentage of support in the opinion that rain has a negative effect on plants was estimated at 68.8%. The percentage of support in opinions that there is a relationship between rain and plant growth was estimated at 81.3%.

## Discussion

There are many studies that have proven that there is a relationship between rainfall variation and lack of agriculture, and they were in agreement with our current study, but the purpose of this study is to find appropriate solutions that help solve this problem in the city of Sabya, reducing the risk of lack of agriculture, and in light of what we have achieved in this Current research conclusions can be provided

The following recommendations: - Conducting more advanced studies and experiments on rainfall variation and its relation to the lack of cultivation of the Alonca plant and its damages.

- Establishing scientific research centers and monitoring environmental problems by the Ministry of Health and the Ministry of Environment.

## Conclusions

- There is an effect of rainfall variation on the cultivation of the Alonca plant, and rain is considered one of the most important factors affecting its cultivation.
- There is a direct relationship between rainfall variation and the cultivation of the Alonca plant, so the less rainfall, the less cultivation.

## Bibliography

- Globe 2023 Virtual Expo [https://www.globe.gov/news-events/meetings\\_symposia/annual-meetings/23rd-annual-meeting](https://www.globe.gov/news-events/meetings_symposia/annual-meetings/23rd-annual-meeting)
- Dictionary of meanings <https://www.almaany.com/ar/dict/ar-ar/%D9%85%D8%B7%D8%B1/>
- Egyptian magazine [https://egjec.journals.ekb.eg/article\\_149006.html](https://egjec.journals.ekb.eg/article_149006.html)

## التوصيات

-إجراء مزيد من الدراسات والتجارب المتطورة حول تباين الامطار وعلاقته بقلته زراعة نبات الالونكا واضرارها  
- إقامة مراكز للبحث العلمي و رصد المشكلات البيئية من قبل وزارة الصحة و وزارة البيئية .  
- دراسة البحث على نطاق واسع بمناطق مختلفت .  
- استخدام طرق ري حديثة تساعد على استمرار نموه في أوقات الجفاف وانقطاع المطر.

## قائمة المراجع

المعرض الافتراضي لجلوب 2023  
[https://www.globe.gov/news-events/meetings\\_symposia/annual-meetings/23rd-annual-meeting](https://www.globe.gov/news-events/meetings_symposia/annual-meetings/23rd-annual-meeting)

معجم المعاني

<https://www.almaany.com/ar/dict/ar-ar/%D9%85%D8%B7%D8%B1/>

المجلة المصرية

[https://egjec.journals.ekb.eg/article\\_149006.html](https://egjec.journals.ekb.eg/article_149006.html)

## النتائج

أبرزت النتائج أثناء التحليل الإحصائي بعض من الأمور الهامة :  
وجدنا أن نسبة التأييد في الآراء بأن المطر يؤثر على الزراعة حيث قدرت الموافقة بشدة بنسبة ٨٣.٩%  
هناك نسبة متوافقة في الإجابة بالموافقة بشدة تظهر في المطر عامل مهم لزراعة الأشجار تقدر بنسبة ٨٨.٤%  
و ظهرت نسبة التأييد في الآراء بأن توجد أضرار لانقطاع الامطار تقدر بنسبة ٨٢%  
ظهرت نسبة التأييد في الآراء بأن للمطر تأثير سلبي على النبات تقدر بنسبة ٦٨.٨%  
ظهرت نسبة التأييد في الآراء بأن توجد علاقة بين الامطار ونمو النباتات تقدر بنسبة ٨١.٣%

## الاستنتاجات:

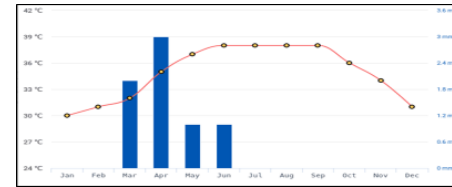
- يوجد تأثير لتباين الامطار على زراعة نبات الالونكا و يعتبر المطر من اهم العوامل المؤثرة على زراعته .
- توجد علاقة طردية بين تباين الامطار و زراعة نبات الالونكا فكلما قلت نسبة الأمطار قلت زراعته .

## منهجية البحث

استخدمنا المنهج الوصفي المسحي والملاحظة . والاستبانة  
\* استخدمنا موقع وأجهزة GLOBE لأخذ البيانات وتحديد الموقع ( شكل ١ ) .



الأدوات المستخدمة ( شكل ١ )



شكل تباين الأمطار في المنطقة ( ٢ )



صورة النبات في موسم الجفاف شكل ( ٤ )



صور النباتات في موسم الأمطار شكل رقم ( ٣ )

## المقدمة

تعد ظاهرة انقطاع الأمطار وتباينها من المشكلات الكبيرة التي تعاني منها المناطق الجافة وشبه الجافة، وذلك لما لها آثار سلبية على الزراعة المطرية، ومدينة صبيا تعاني من هذه الظاهرة ، وتشتمل منطقة الدراسة على معظم الأراضي المزروعة ، وتعتمد الزراعة على مياه الأمطار والمياه الجوفية، وتهدف هذه الدراسة إلى معرفة أثر انقطاع الامطار على زراعة نبات الالونكا في مدينة صبيا ومن هنا بدأنا في اقتراح ما يلي:  
**اسئلة البحث:**  
- هل يؤثر تباين الامطار على زراعة نبات الالونكا في مدينة صبيا ؟  
**الفرضية :**  
- يؤثر تباين الامطار على زراعة نبات الالونكا في مدينة صبيا.

## المشكلة

تباين الأمطار وأثرها على زراعة نبات الالونكا في مدينة صبيا .

## أهداف الدراسة

-معرفة اثر انقطاع الامطار على زراعة نبات الالونكا في مدينة صبيا .