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**RESPONSE OF BARHEE DATE PALMS TO SPRAY
OILS OF MORINGA, GARLIC AND ONION AND
EXTRACT OF GREEN TEA**

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V- SUMMARY AND CONCLUSION

This research was carried out over the course of two seasons in 2017 and 2018. The palms were spaced at a distance of 7.0x7.0 metres. The soil has a silty clay texture. At the commencement of the trial, the chosen palm (39 palm) was 18 years old. Per palm, the number of female spathes was lowered to ten spathes. Except for those dealing with spray plant extractions, all of the selected Barhee dates palms underwent the standard horticultural procedures that are currently used in the orchard. The primary goal of this research was to determine the effects of moringa spray oils. On the growth, palm nutritional, yield, and fruit quality of the Barhee dates palm planted in the Aswan region, garlic and onion, as well as the extraction of green tea, were studied.

The present experiment included the following thirteen treatments, from different plants extractions:

- 1- Control (spray with water).
- 2- Spray 0.05 % moringa oil
- 3- Spray 0.1 % moringa oil
- 4- Spray 0.2 % moringa oil
- 5- Spray 0.05 % garlic oil
- 6- Spray 0.1 % garlic oil
- 7- Spray 0.2 % garlic oil
- 8- Spray 0.05 % onion oil
- 9- Spray 0.1 % onion oil

10-Spray 0.2 % onion oil

11-Spray 0.05 % green tea extraction

12-Spray 0.1 % green tea extraction

13-Spray 0.2 % green tea extraction

Each treatment was replicated 3 times, one Barhee dates palm per each. The chosen palm sprayed 3 times with the investigated plants extractions at before hand pollination, directly after fruits set and at after a month).

Complete randomized block design (CRBD) was followed:

During both seasons, the following parameters were recoded:

1- Some vegetative growth characteristics:

Length, width and area of pinnae and leaves number of pinnae per leaves, number of spines per leaves and spine length.

2-Leaves chemical components:

Chlorophylls a, b, total chlorophylls and total carotenoids as (mg/ 1 g F.W.) and also N, P, K and Mg percentages (on dry weight basis).

3- Some flowering and fruits set aspects:

Number of strands per spathe, number of flowers and fruits after fruits set and just before harvesting per strand, initial fruits set % and fruits retention %.

4- The yield weight (kg)/ date palm:

Yield weight (kg) date palm per palm (kg.) and also weight (kg.) and length (cm.) of bunch.

5- Some physical and chemical characteristics of the fruits:

Weight (g.), height and diameter (cm) of fruits, percentages of seed and flesh weight, TSS %, total, minimizing and non- minimizing sugars %, total acidity % and total crude fiber %.

The nearly some obtained data during both seasons could be summarized under the following main topics:

1- Some vegetative growth characteristics:

Treat Barhee dates palm with any one of the 4 plants extractions namely oils of moringa, garlic and onion and extraction of green tea each at 0.05 to 0.2% proved to be very potent in maximizing length, width and area of pinnae and length, with and area of leaves, number of pinnae per leaves, number of spines / leaves and spine length over the control application. The promotion was associated with developing concentrations. The best plant extraction was garlic oil followed by oils onion and moringa green tea extraction ranked the last position in this respect. The lowest values were recorded on untreated palm.

2-Some leaves chemical components:

Chlorophyll a, chlorophyll b, total chlorophylls, total carotenoids, N, P, K and Mg in the leaves were materially varied among the thirteen plants extractions treatments. They were materially enhanced in responding to Treat the palm with any one of the 4 plants extracts namely oils of moringa, garlic, onion

and extract of green tea each at 0.05 to 0.2% compared to the control application.

Using plants extract of green tea, oils of moringa, onion and garlic, in ascending order materially maximized these leaves components. Developing concentrations of each plants extractions from (0.1 to 0.2%) had no clear impact on these leaves components.

3- Some flowering and fruits set aspects:

Spray plants extracts namely moringa oil, garlic oil, onion oil and green tea extract at 0.05 to 0.2% materially enhanced the number of strands/ spathe, number of flowers and fruits after fruits set and just before harvesting per strand, initial fruits set and fruits retention % compared to the control application. The simulation was appreciably related to the increase in the concentrations of each plants extracts. The outstanding impacts on the investigated some flowering and fruits set aspects of these plants extracts could be arranged as follows in ascending order green tea extract, moringa oil, onion oil and garlic oil. Developing concentrations of each plants extracts from 0.1 to 0.2% failed to show material promotion on these aspects.

4-The yield weight (kg) / date palm :

Treat Barhee dates palm three times with oils of moringa, garlic and onion and extracts of green tea each 0.05 to 0.2% had an obvious promotion on the yield weight (kg) / date palm, as

well as weight and length of cluster compared to the control application. The promotion was considerably associated with using plants extracts of garlic oil, onion oil, moringa oil and green tea extract, in descending order. The promotion on the yield was depended on developing concentrations of each plants extracts. Developing concentrations from 0.1 to 0.2% failed to show significant promotion on the yield and weight and length of bunch.

5- Fruits quality:

Subjecting Barhee dates palm three times with any one of the four plants extracts (moringa oil, garlic oil, onion oil and green tea extract) each at 0.05 to 0.2% appreciably was followed by maximizing fruits quality in terms of developing weight, height and diameter of fruits, flesh weight %, TSS % on both physical and chemical characteristics of the fruits was measurably associated with using plants extracts of green tea extract, moringa oil, onion oil and garlic oil in ascending order. This means that the best plants extractions was garlic oil followed by onion oil and green tea extraction occupied the last position in this respect. Meaningless promotion on fruits quality was attributed to developing concentrations of each plants extracts from 0.1 to 0.2%. Therefore, it is advised to use the medium concentration of each plant extracts namely 0.1 %. The best result were obtained due to Treat palm three times with

garlic oil at 0.1% fruits shape value was unaffected by the investigated plant extracts treatment.

CONCLUSIONS

For maximizing yield and fruits quality of Barhee dates palm is suggested to spray garlic oil at 0.1 % three times (before hand pollination (first week of March), directly after fruits set (middle of April) and after a month later (middle of May)