



Date Palms: Irrigation

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About Date Palms

Date palms can grow to 20 m in height and can live for over 80 years. Date Palms require 15,000-36,000 m³ water/ha.



Irrigation

Irrigation frequency during first summer	Soil dependant: <ul style="list-style-type: none"> • very sandy soils - daily • Heavy soils - once a week • Other soils - every second or third day.
Water extraction	<ul style="list-style-type: none"> • For mature date palms, the depth of water use is to about 5 m and the radius is 3 m from the trunk • 90 % of water extracted is from the top 150 cm and only 10 % is from the layers 150 to 200 cm • Localized irrigation (e.g. drip and micro) therefore tend to be more efficient than non-localized ones (e.g. flood irrigation).

Irrigation type	Advantages	Disadvantages
Flood	(1) running costs are low (2) easy to apply (3) initial costs are low if the area is fairly flat.	(1) difficult to achieve a high efficiency rate (2) labor intensive (3) irrigates areas in between where no palms are planted (4) not well suited for sandy soils
Furrow and basin	(1) running costs are low (2) easy to apply (3) initial costs are low if the area is fairly flat	(1) labor intensive (2) interferes with mechanical operations
Sprinkler	(1) more efficient use of water is possible (2) easy to schedule (3) less labor is needed (4) topography is not a limitation	(1) installation is expensive (2) running costs are high (3) heavily influenced by wind and temperature (spray pattern and evaporation) (4) not well suited for small palms because water can enter from above into the growth point of the palm
Drip	(1) more efficient use of water (2) running costs are low (3) easy to schedule/manage (4) topography is not a limitation (5) only the water needed by the palm is applied (6) not influenced by wind (7) easy to automate (8) not labor intensive	(1) expensive (Installation); (2) requires very clean water (3) sometimes difficult to determine if the correct amount of water has been applied by the system, and when it becomes clear that it is too little, it may be too late.

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Reference: Abdelouahhab Zaid. 2002. Date Palm Cultivation. 156 Rev. 1 FAO.

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