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qatarat
BY ALROWAD

RE-USABLE PLANT COCOON

ALROWAD INDUSTRIAL COMPLEX
مجمع الرواد للصناعات الخفيفة

Transforming
Deserts Into **Forests**

حايزينها تبقى خضرا!

qatarat
BY ALROWAD

The Story Behind qatarat®

qatarat® is a product introduced to you by AlRowad Industrial Complex aiming to help cope with the growing water crisis, land reclamation, spread green areas around Egypt, and increase nutrition supply. With the continuous incline in population, and the new projects aiming at reclamation of the deserts, it's now the time to apply a technology that's well adapted to the scarcity of water and provides smarter and cheaper solutions for nutrition, and designed to survive harsh climates.

قـصة قطــرات

قطرات منتج تقدمه لكم شركة الرواد للصناعات الصناعات التكميلية. الهدف من صندوق قطرات هو التعامل مع أزمة المياه التي يتعرض لها العالم، والتصحر، وتوفير موارد غذائية تواكب الزيادة السكانية. في الآونة الأخيرة اتجهت مصر لاستصلاح الأراضي الزراعية استغلال الأراضي الصحراوية في بناء المجمعات السكنية، لذلك

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BY ALROWAD

The problem of Water scarcity and desertification

- **Irrigation is simply the artificial supply of water to crops**. In poor countries this is done, for example, by carrying buckets with water from a river or ditch to the crops. In western countries people use mainly drip irrigation, surface irrigation or spraying on a large scale.

- **In poor countries, the irrigation systems that we use are not affordable** for the bigger part of the society. The irrigation systems aren't only expensive to build, but consume a lot of energy and water too. For people with a small budget who want to grow fruit trees and/ or vegetables

- **the world's water situation**
expecting water supply of 2.9 billion people in 48 countries to fall short of needs in as little as 10 years. In most of those countries over %80 of the water is used for agricultural purposes where most of the water is irrigated with drip irrigation. However, drip irrigation is a sniper water killer

- **Drip irrigation uses 15 to 50 litres per tree per day**. That looks little, but it means that one hectare of grapes with 2,500 plants uses 37,500 litres of water each day. (one acre with 1,000 plants uses 3,750 gallons each day). If water was priced at its costprice, growers could not produce crops with drip irrigation

- **%50 Of the given quantity of water** through drip irrigation **evaporates**

- **In nature dry soil is white**. That is not a coincidence, it cools the soil. However, the water from drip irrigation makes the soil black, so it heats up terribly

- **The black color creates ideal circumstances** for root diseases

- **The diseases require treatments with pesticides**, so drip irrigation leads to unhealthy food; and the pesticides are expensive to use It also causes salination of the soil – slowly the salt level rises, until the soil is too salty for trees/plants to grow

- **Cities have incredibly high costs** of investment of the expensive grid structure, eternal pumps use, maintenance and replacement of expensive tubes.

- **Desertification, sinking water tables, erosion, hunger and poverty** are multiple big problems in this world.

- تعريف الري ببساطة هو إمداد المحاصيل بالمياه اللازمة للتغذية. في الدول الفقيرة يتم ذلك عن طريق نقل المياه من مصدر المياه المتوفر كالأنهار أو البحيرات لأماكن تواجد الزرع، أما الدول الغربية فتستخدم الري بالتنقيط و الري السطحي أو الرش على نطاق واسع.

- لا تتوفر أنظمة الري التي نستخدمها في البلدان الفقيرة للجزء الأكبر من المجتمع الغير قادر على تحمل تكاليفها. أنظمة الري ليست مكلفة فقط في البناء ولكنها تستهلك الكثير من الطاقة والمياه أيضًا للأشخاص ذوي الميزانية الصغيرة الذين يرغبون في زراعة أشجار الفاكهة و / أو الخضار.

- حالة المياه على مستوى العالم:
من المتوقع ألا تكفي مواردنا من المياه تغطية احتياجات ٢.٩ مليار إنسان في ٤٨ بلد خلال العشر سنوات القادمة. في معظم هذه البلدان تستخدم أكثر من ٨٠٪ من المياه للأغراض الزراعية حيث يتم ري معظم المياه بالري بالتنقيط ومع ذلك فإن الري بالتنقيط يهدر الكثير من المياه وليس هو الحل الأمثل لتلك الأزمة.

- يستخدم الري بالتنقيط من ١٥ إلى ٥٠ لترًا لكل شجرة يوميًا، مما يعني أن هكتارًا واحدًا من العنب يحتوي على ٢٥٠٠ نبتة ويستخدم ٣٧٥٠٠ لترًا من الماء يوميًا. (فدان واحد به ١٠٠٠ نبتة ويستخدم ٣٧٥٠ جالونًا يوميًا). إذا تم تسعير المياه بسعر تكلفتها ، فلن يتمكن المزارعون من إنتاج المحاصيل بالري بالتنقيط.

- تتبخر ٥٠٪ من المياه المستخدمة عن طريق الري بالتنقيط.

- في الطبيعة تظهر التربة الجافة باللون الأبيض، واللون الأبيض يعكس الضوء ويساهم في انخفاض حرارة التربة. أما التربة المستخدمة في الري بالتنقيط سوداء اللون مما يرفع درجة حرارة التربة بشكل كبير.

- ذلك اللون الأسود يخلق المناخ المناسب لأمراض الجذور.

- وتسترجي تلك الأمراض العلاج عن طريق مبيدات الآفات ولذلك فإن المحاصيل التي تنتج عن الري بالتنقيط هي محاصيل غير صحية مبيدات الآفات غالية الثمن في الاستخدام ، كما أنها تسبب ملوحة التربة - يبطء يرتفع مستوى الملح، حتى تصبح التربة مالحة جدًا ولا تسمح بنمو الأشجار / النباتات

- تتكلف المدن أموال كثيرة للاستثمار في هيكل الشبكة الباهظ الثمن ، واستخدام المضخات الأبدية ، وصيانة واستبدال الأنابيب باهظة الثمن.

- لتصحر ، وغرق منسوب المياه الجوفية ، والتعرية ، والجوع ، والفقر هي مشاكل كبيرة متعددة في هذا العالم.

is to solution for these problems.

Qatarat® reduces the water use in agriculture and trees can be planted with less water. Qatarat® plant pot uses %90 less water and the trees that are planted with it have a survival rate of more than %90!

قطرات® تساهم في استخدام مياه أقل في الزراعة العادية وزراعة الأشجار. يستخدم إناء نباتات قطرات® مياه أقل بنسبة ٩٠٪ ، كما أن معدل نجاح بقاء الأشجار المزروعة بها على قيد الحياة يزيد عن ٩٠٪!

Why Qatarat ?

“Triple 90 Benefits”

90 % less
water use
STOP USING DRIP IRRIGATION

٩٠٪ توفير للمياه مقارنة
بالري عن طريق التنقيط

90%
cheaper
THAN DRIP IRRIGATION

٩٠٪ أرخص من الري
بالتنقيط

+90%
survival
rate
MORE THAN 90%!

٩٠٪ فرصة أكبر لبقاء النبات
على قيد الحياة مقارنة بالنباتات
المزروعة عن طريق التنقيط

In poor countries, the irrigation systems that we use are not affordable for the bigger part of the society. The irrigation systems aren’t only expensive to build, but consume a lot of energy and water too. For people with a small budget who want to grow fruit trees and/or vegetables, we have developed the Qatarat® plant cocoon. With the Qatarat® plant cocoon the grower can save up to %90 water – compared to drip irrigation – and they don’t need energy!

Save **costs** and earn **money** with the AlRowad Technology

On fertile land, one can plant seeds or trees without its use - the Qatarat® plant cocoon can be useful, not certainly not necessary. However, fertile land can be used for annual crops that usually offer a higher ROI (return on investment) than trees. So, in this case, we prefer to use fertile – and more expensive - land for these kinds of crops. Expensive land makes the cost of tree planting too high: the high capital costs (capital and interest) of an investment in land for the necessary long period - from the moment of planting until harvest - make it almost impossible to have an interesting or even acceptable ROI.

The AlRowad Qatarat® plant cocoon offers so many cost advantages, that its use is in most cases, cost neutral; and in the longer term, it saves huge amounts of money, thereby reducing the production costs of our food and wood. The Qatarat® plant cocoon technology is a complete growing system which offers the possibility of high ROI, sustainability, and a significant contribution to the world›s food and resource problems that we all want to solve.

Inexpensive;
- No expensive energy plants to invest in; no electricity grid infrastructure needed;
- No water transport pipes and drip irrigation tubes infrastructure needed;
- In general new solutions are more expensive than the traditional method.
- The AlRowadEcological Water Saving Technology offers the rare combination of lower costs and more sustainable.
- Value rise of at present worthless land, creates the collateral to finance projects;

Planting can be industrialized;
big scale planting becomes viable For (big) professional project use; financed by user, bank or investor;
- For rural family use; financed by NGO's or governmental agricultural programs;
- For consumer use; dry gardening or home production of organic food;
- Easy to implement in micro-credit services; high revenues for financiers;
- Low cost big scale ecosystem restoration possible in combination with pioneer trees;
- Cities can recover their canopy on a street or suburbia level; also for parks
- Easy to use on inclined slopes, viaducts or to prevent avalanches in ski areas;
- Big scale fixing of sandy areas to prevent damage from sand storms;
- This micro-protection makes tree planting on community owned land possible;

90 % less
water use
STOP USING DRIP IRRIGATION

In many dry places where rain falls in a short period, people use drip irrigation. Keeping plants and trees alive with drip irrigation doesn't only cost energy, but also a lot of water. Besides that, the root system of a plant cannot develop deep in the ground, because there is always plenty of water at the surface.
With the AlRowad Ecological Water Saving Technology, trees and plants can be planted on degraded farmland without the use of drip irrigation. The benefit is that we use %99 less water with our technology (compared to drip irrigation) and you don't need energy. Also, with the AlRowad Ecological Water Saving Technology you can plant vegetables that use %75 less water than when planted with drip irrigation.

يستخدم المزارعين الري بالتنقيط في العديد من المناطق ذات الأمطار النادرة. يهدر التنقيط الكثير من الأموال والمياه ولا يمكن جذور النباتات من النمو بشكل عميق في التربة لتوافر المياه على السطح.

مع تقنية الرواد لتوفير المياه ، يمكن زراعة الأشجار والنباتات في الأراضي الزراعية المتدهورة دون استخدام الري بالتنقيط. الفائدة هي أننا نستخدم مياه أقل بنسبة ٩٩٪ مع تقنيتنا (مقارنة بالري بالتنقيط) ولا تحتاج إلى طاقة. كما يمكنك زراعة الخضروات التي تستخدم مياه أقل بنسبة ٧٥٪ مقارنةً بزراعتها بنظام الري بالتنقيط.

+90% survival rate
MORE THAN 90%!

There are multiple big problems in this world. Desertification, sinking water tables, erosion, hunger and poverty. The patented Qatarat® plant cocoon is to solution for these problems. The Qatarat® plant cocoon reduces the water use in agriculture and trees can be planted with less water. The Qatarat® plant cocoon uses %90 less water and the trees that are planted with it have a survival rate of more than %90!

هناك العديد من المشاكل البيئية والاقتصادية تشغل بال العالم مثل التصحر وغرق منسوب المياه الجوفية والتعرية والجوع والفقر. شرنقة نبات قطرات® الحاصلة على براءة الاختراع هي الحل لهذه المشاكل. تقلل شرنقة نبات قطرات® من استخدام المياه في الزراعة العادية وزراعة الأشجار. تستخدم شرنقة نبات قطرات® مياه أقل بنسبة ٩٠٪ ، كما أن معدل بقاء الأشجار المزروعة بها على قيد الحياة يزيد عن ٩٠٪!

Why Qatarat ?

With a steady increase in the global population many challenges are perceived in the near future, which means that we need to be prepared for humanity to survive them. By the year 10 ,2050 billion people will inhabit the world. This means that the world needs %70 more food to cover the shortage in food supply in the next 35 years, and definitely food needs water to produce it.

نتوقع ظهور العديد من التحديات في المستقبل القريب بسبب الزيادة المستمرة في عدد سكان العالم ، مما يعني أننا بحاجة للاستعداد للنجاة من تلك المشكلات والحفاظ على استمرار البشرية. فبحلول عام ٢٠٥٠ ، سوف يسكن العالم ١٠ مليار نسمة وهذا يعني أن العالم يحتاج إلى ٧٠٪ من المواد الغذائية الإضافية لتغطية النقص في الإمدادات الغذائية في السنوات الـ ٣٥ المقبلة.

- ٩٠٪ أرخص
- ٩٠٪ أقل استهلاكاً للمياه
- الحل الأمثل للزراعة في المدن
- استخدام أقل للمبيدات الحشرية أو عدم استخدامها على الإطلاق
- ٩٠٪ فرصة أكبر لبقاء النبات على قيد الحياة مقارنة بالري بالتنقيط
- يمكن استخدامه حتى عشر مرات
- يمنع ظهور الحشائش
- مجرب في ٢٦ دولة حتى الآن
- الري عن طريق مياه الأمطار على مدار السنة
- مقاومة عالية للتغيرات المناخية
- يحمي النبات من الحيوانات الجائرة
- يحمي ويحافظ على التربة
- يوفر غذاء مباشر للجذور عن طريق الفتيل

٩٠ ٪ أوفر

اقل ٩٠٪ استهلاكا للمياه عن الري بالتنقيط

الحل الامثل للزراعة في المدن

اقل استخداما للمبيدات الحشرية

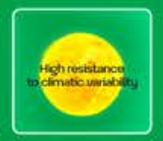
فرصة بقاء تصل الي ٩٠٪

استخدام حتى ١٠ مرات

يمنع نمو الحشائش

مستخدم في ٢٦ دولة

استخدام مياه الامطار للري



مقاوم للتغيرات المناخية

مكافحة القوارض الصغيرة

يعمل على الحفاظ على التربة

تغذية مباشرة للجذور عن طريق الفتيل

Qatarat® Is
A Planting Technology

- allows you to plant trees alongside, shrubs, bushes, flowers, and vegetables WITHOUT the need for irrigation.
- It's a re-usable polypropylene bucket with a cover that allows catching rainwater and producing and capturing water from condensation/dew.
- One to four plants can be placed in the central twin opening.
- The water in the bucket moderates the temperature under the pot and the specially shaped center opening creates a supportive micro-climate for the young plants / trees to grow.
- It is also designed to protect the plants from grazing animals.
- A wick through the bottom drips approximately 50cc of water to the plant every day, which is enough for it to survive.
- Water loss through evaporation is minimized.

First Time Use
18 month - 100% Efficiency

Second Time Use
35 month - %100 Efficiency

Third Time Use
41 month - %100 Efficiency

Forth Time Use
57 month - %100 Efficiency

- The plant is stimulated to develop its taproot and find water by itself.
- Qatarat® helps a planted tree through the first year(s) by assisting the sapling to reach 3m+ depth with its roots within the first year(s).
- After this, the tree taps from the water that is available in the soil, and it can continue to grow without the Qatarat® pot - so it can be removed and used to plant another set of trees.
- As the product is made from virgin polypropylene, it can be re-used approximately 10 times. You can thus plant 40-10 trees with each Qatarat® pot, thereby minimizing the cost-per-tree.

qatarat® pot is by far the cheapest method to plant without irrigation in hot, dry or eroded areas.

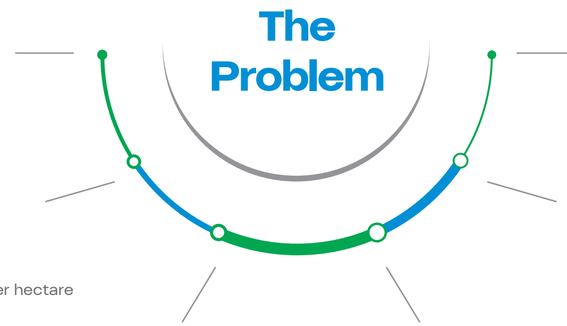
The fact that you can re-use the box for 10 years,
planting new trees each year,
makes the cost per tree incredibly low.

It is an efficient alternative irrigation method that helps save %90 water consumption, %90 more plant survival rate, and %90 cheaper than irrigation through dripping.

قطرات طريقة ري بديلة تساعدك على توفير ٩٠٪ من المياه المستهلكة، و٩٠٪ فرصة أكبر لبقاء النبتة على قيد الحياة، و٩٠٪ أرخص من الري بالتنقيط.

Alrowad Qatarat got the solution

With a steady increase in the global population many challenges are perceived in the near future, which means that we need to be prepared for humanity to survive them. By the year 10 ,2050 billion people will inhabit the world. This means that the world needs %70 more food to cover the shortage in food supply in the next 35 years. The world faces 7 integrated challenges identified by the UN and here's how qatarat®'s water box helps solve these problems:



Poverty

Solution :
qatarat® eases poverty through creating %90 cheaper crops, with %30 faster plant growth allowing rural families to generate income.

rural-urban migration

Solution :
Creates more jobs within local communities, so young people won't have to leave their homes to search for job opportunities in the city.

water scarcity

Solution :
Saves %90 water per hectare

climate change

Solution :
Spreading green areas and planting reduces and moderates temperatures.

food shortages

Solution :
generates 5 to 10 tons of crops per hectare

land degradation

Solution :
combats desertification, land degradation, and boosts biodiversity.

Other available solutions and why qatarat® is the best option
The lead competitor for qatarat® box is irrigation through dripping. However, dripping has multiple issues that qatarat® has succeeded to conquer.

1. It requires significant investment
2. Inefficient in using water

PIETER HOFF

1953 - 2021

The technology behind Qatarat® was innovated by Pieter Hoff, after noticing falling ground water levels in over 50 countries who'd been relying on dripping as their main irrigation technique. He decided that he should dig deeper and see how he could solve this problem. His invention won lots of international awards, amongst others the Popular Science "Best of 2010" innovation and most recently was appointed "National Icon" by the government of the Netherlands.

How it work ?

1. The seed is planted in the tube at the centre of the box
2. A wind device is installed to help fix the box and protect it from getting blown away by the wind (if needed)
3. Up to two seeds can be sown at the centre of the tubular opening
4. The box is filled with 15 liters of water and the opening is filled with 3 liters
5. At night, the box's insulated plate produces water through means of condensation
6. Water is transported to the inside of the box through two small pipes at each side of the tube
7. The cover is also designed to collect rainwater
8. During daytime, the box preserves it's cool temperature to defeat the heat of the sun
9. And during the night, the temperature inside the box is relatively warm
10. The box also protects the plant from the wind and grazing animals
11. The wick inside the box drips approximately 50 ml everyday
12. This allows the development of a capillary water column of 2 meters
13. This stimulates the roots to search for water in the canals below them
14. A period of strong growth starts when the roots find enough water
15. The box can then be removed and reused to plant another seed.

كيف تعمل قطرات؟

١. تزرع الحبوب في الفتحة الموجودة بمنتصف الصندوق
٢. يمكنك تركيب جهاز لمقاومة الرياح إذا تطلب الأمر
٣. يمكنك زراعة حبة واحدة أو حبتان في الفتحة الموجودة بمنتصف الصندوق
٤. يملأ الصندوق ب١٥ لترا من المياه وتملأ الفتحة ب٣ لتر من المياه
٥. ليلا يقوم الصندوق بتكثيف المياه عن طريق الطبق المعزول
٦. تنتقل المياه عن طريق ماسورتان صغيرتان على جانبي الفتحة
٧. يقوم الغطاء بجمع مياه الأمطار لاستغلالها في عملية الزراعة
٨. نهارا، يحفظ الصندوق الحرارة المنخفضة لمقاومة حرارة الشمس
٩. وليلا تكون درجة الحرارة داخل الصندوق دافئة لتهيئة الظروف المناسبة لنمو النبات
١٠. الفتيل داخل الصندوق يقطر ٥٠ مل من المياه يوميا لتهيئة التربة
١١. يسمح ذلك بتكوين ٢ متر من التربة الصالحة مكان زرع النبات
١٢. عندما تنمو النبتة قليلاً تتحفز جذورها للبحث عن مصدر الماء بالتربة
١٣. حين تجد الجذور المياه تتمكن النبات من النمو بشكل صحي وطبيعي
١٤. حينها نستطيع إزالة الصندوق واستخدامه لزراعة نبتة أخرى

The box is Equipped to use Rainwater as a Source of Water All Year Round

With the **AlRowad Qatarat®**
a seed or tree is planted in a way that the capillary is not destroyed when planting the tree.

- In the middle of the AlRowad Qatarat® there is space to put a seed, a plant or a tree.
- This plant can develop its roots under the AlRowad Qatarat®.
- The AlRowad Qatarat® produces water via artificial condensation.
- It collects rainwater.
- It distributes the collected water to the plant on a daily base.
- It stimulates the rise of the capillary water to the top of the soil under the AlRowad Qatarat®.
- It prevents evaporation of the capillary water.
- It prevents the development of weeds around the plant.
- It prevents grazing of the plants by a certain variety of animals.
- It prevents erosion of the soil around the plant.
- It prevents heating of the soil around the plant.
- It stimulates a balanced temperature in the root area.
- The advantage of planting without destroying the capillary is that the AlRowad Qatarat® can also be used for planting on rocks.

صندوق قطرات مصمم ليمكنك من استخدام مياه الأمطار مصدراً للغذاء طوال العام

قطرات يتيح لك أن تُزرع بذرة أو شجرة بطريقة لا تتلف العمل الشعري عند غرس الشجرة.

- هناك مساحة في منتصف صندوق قطرات المقدم من الرواد لزراعة بذرة أو بذرتين
- ويمكن للنبات مد جذوره في الأرض تحت الصندوق
- يحصل قطرات على المياه عن طريق التكثيف الصناعي
- فهو يجمع مياه الأمطار ويمد النبات باحتياجه من المياه كل يوم
- يحفز تجمع المياه عن الصندوق على سطح التربة
- يمنع تبخر المياه الشعرية
- يمنع نمو الحشائش بالقرب من النبات
- يحمي النبات من الحيوانات الجائرة
- يحافظ على التربة
- يعدل درجة حرارة التربة لتصبح مناسبة لنمو النبات
- من فوائد الحفاظ على العمل الشعري للنبات هو إمكانية الزراعة في التربة الصخرية أيضاً

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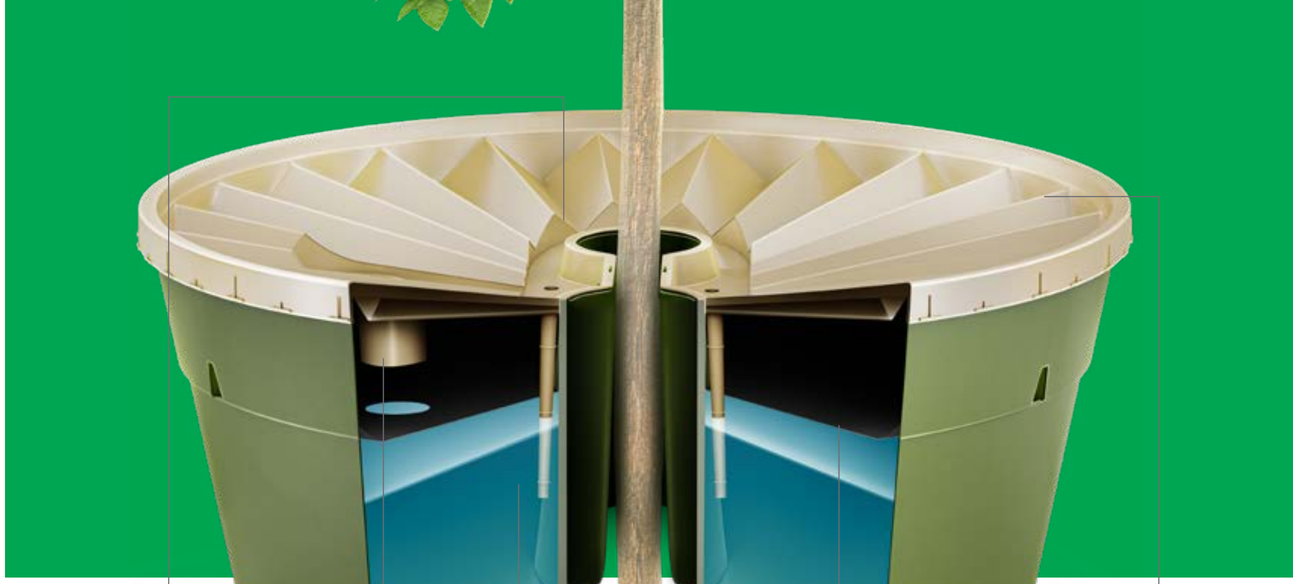
Plastic Cover

Black Plastic Cover

Polypropylene Reservoir

Nylon Wick



central twin opening with eight shape surrounds the plant
فتحة مركزية لإضافة بذرة أو بذرتان

Opening with cap to fill the reservoir
فتحة ذات غطاء لملئ الخزان

Siphon leads the water collected to the reservoir
يقود السيفون المياه المجمعة إلى الخزان

Plastic cover for catching and collecting rainwater
غطاء من البلاستيك لتجميع مياه الأمطار

Polypropylene water reservoir
خزان مياه مصنوع من البولي بروبيلين

Nylon wick drips water to the soil
فتيل من النايلون لتنقيط التربة بالمياه

Black plastic cover minimizing water loss due to evaporation
غطاء بلاستيك للحد من هدر المياه نتيجة لعملية التبخر

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The development of subsurface
irrigationUsing a **Deep Irrigation System**

تطوير الري تحت السطحي باستخدام
نظام الري العميق

Deep Root Irrigation Alrowad Qatarat plant pot use of Deep Root Irrigation

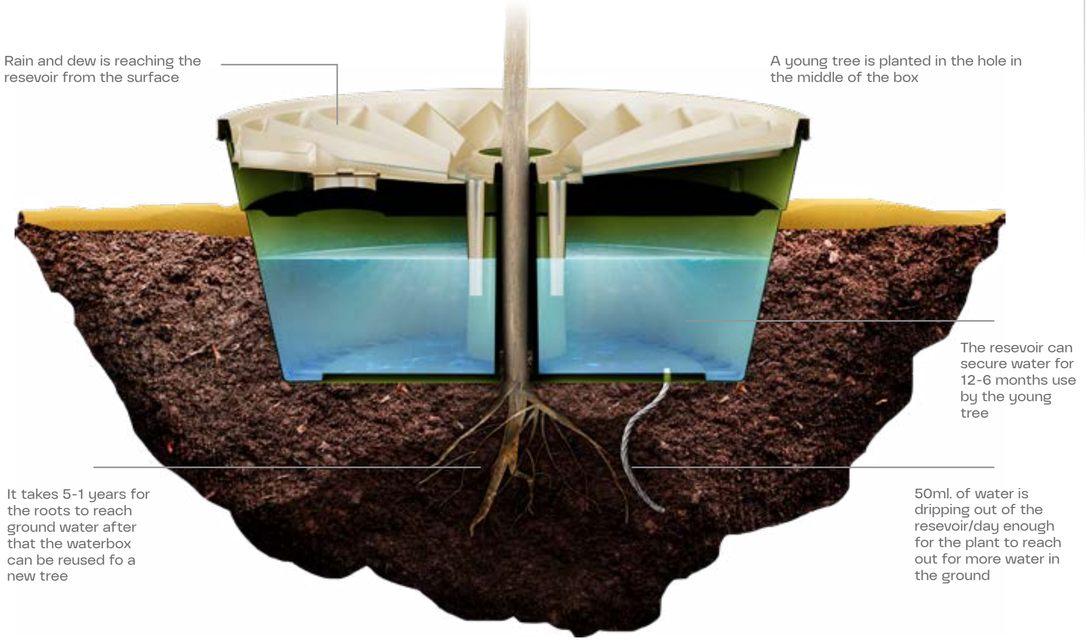
استخدام الرواد لنظام الري العميق

- It is a method of subsurface irrigation to provide the root area with its water needs directly as much as the water needs of trees, which reduces water loss by evaporation and weed growth, harmful around the tree.
- Problems of traditional irrigation: blockage of irrigation points and insufficient water to cover the needs of gardening and field agricultural activities

Transforming deserts into Forests

تحويل الصحارى لغابات

Sketches Study of the Waterboxes Concept by Groasis.com



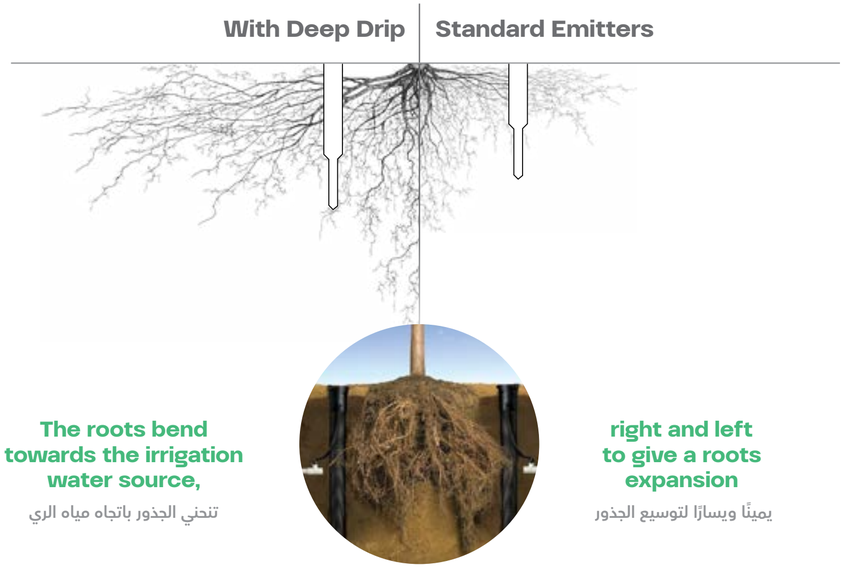
Irrigation using deep methods applied by placing a wick of natural cotton close to Trees have several pores to distribute irrigation water in the deep and most absorbent root zone.

- Experiences in Africa showed that grape production on deep irrigation system multiplied the production weight Compared with surface drip irrigation six times the weight of conventional surface irrigation.
- Deep tube irrigation can be used with lower water quality , As its blockage is rare.
- Installation is easy and does not require specialized labor

Comparison between surface irrigation and subsurface irrigation Wetness area, humidity, and root growth level

مقارنة بين الري السطحي والري تحت السطحي مساحة البلل والرطوبة ومستوى نمو الجذور

Illustration of the optimal distribution of water around the roots - vertical irrigation

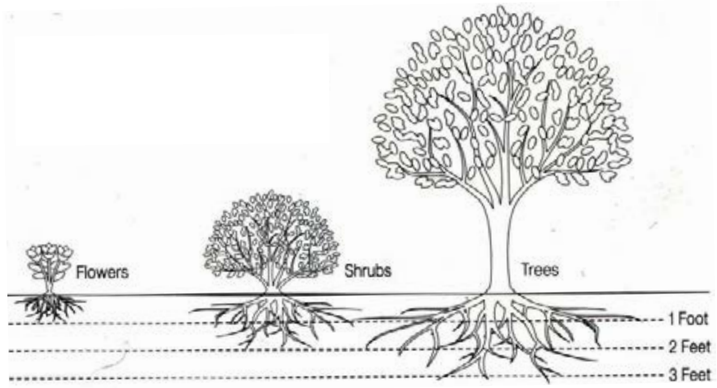


The roots bend towards the irrigation water source,

تنحني الجذور باتجاه مياه الري

right and left to give a roots expansion

يمينًا ويسارًا لتوسيع الجذور



Suggested Watering Depth For Different Types Of Plants

Suggested Depths for irrigation wick

عمق الري المقترح للمصدر أنواع مختلفة من النباتات

A vivid picture of reality... Surface irrigation and under irrigation surface in 30 minutes

صورة حية للواقع ...الري السطحي وتحت سطح الري في ٣٠ دقيقة

- Moisture distribution under vertical irrigation system
- Drippers Root Drippers
- Surface drip irrigation method

Natural Principles and sustainability

Capillary: the amount of water that is retained in minute interstitial spaces in the form of thin films surrounding the soil particles, is known as capillary water. As soon as the sun shines on the soil, the capillary dries up. Qatarat® prevents this.

Rain: almost every place on Earth has rain. The problem with this rain is that it falls in 2 days and it evaporates within a week. So the issue is not a lack of water but the capture and distribution of the water over a year period. The Qatarat® captures this rainwater and distributes it via an ingenious standalone system over the year period to the tree.

Condensation: everywhere in the world where there is a minimum of relative humidity and surfaces are able to get colder than the air temperature, condensation occurs as a result.
Qatarat® produces on an artificial basis condensation that develops against its cold surface. Dew is the condensation of air humidity that develops when warm air is crimping.

Temperature balancing: the buffer of water in the Qatarat® functions as an equalizer of the soil temperature. Avoiding extreme temperatures stimulates growth.

Distribution: the produced and collected water is distributed in small daily dosages throughout the year or even for a longer period, to the plant.

Avoid evaporation: the biggest loss of water is evaporation. That is why irrigation via tubes or sprinklers are so ineffective. Qatarat® covers the place where the tree is planted. Therefore the capillary cannot evaporate and the distributed water neither. This means that Qatarat® stimulates a %100 effective use of the added water. Compare this to irrigation: only between 10 to %20 of the added water is really used, the rest evaporates.a

Use of capillary: in nature seed is spread by grazing animals and birds. The seeds are sown ON TOP OF the soil. This is not a coincidence! The manure pastes the seed to the soil. In this way the capillary makes the seed humid, stimulating it to put a small root directly into the soil, giving it direct access to the available capillary humidity allowing it to further grow. Qatarat® copies this process: it does not disturb the soil and therefore maintains the existing capillary structure of the soil. Without capillary the soil would dry out to dust and erode.

Applications of qatarat®:

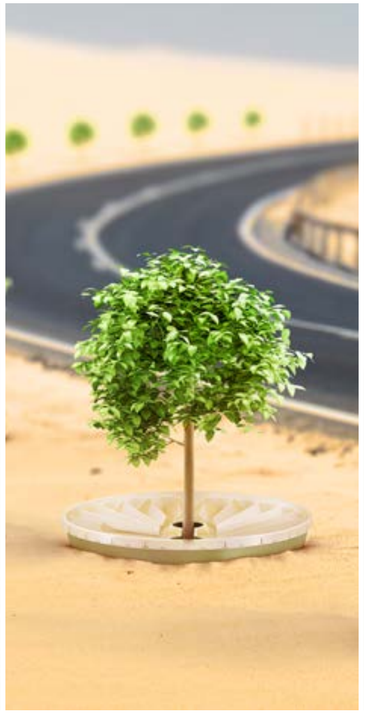
qatarat can be used to help with:

DESERTIFICATION, AND LAND DEGRADATION.
التصحر وتدهور الأراضي الزراعية

GARDENING
زراعة الحدائق

SMALL SCALE FARMING
المزارع الصغيرة

HOME GROWING FOOD
زراعة الطعام بالمنزل



LANDSCAPING AND BEAUTIFICATION
التزيين وتنسيق الطرق

2ND HOME OWNERS
زراعة البيوت الثانية (الثانوية)

Countries Success Stories:

1. Colombia - UN WFP Innovation Accelerator
2. Argentina - «The Unconventional Tree»
3. Canada - Planting in a riparian natural environment park
4. Dubai - Planting trees with temperatures above 40°C!
5. Ecuador - Agua, Vida y Naturaleza, planting trees and vegetables species without irrigation
6. Jordan – Planting grapes with the Jordan River Foundation
7. Kuwait Oasis - Planting trees with high temperatures
8. Mexico - Helping a rural family with growing lemon trees, melons, and other vegetables
9. Morocco - Sahara Roots project, planting trees in the Saharan Desert
10. Spain - LIFE+ The Green Desert, planting 63 hectares with trees
11. USA - Grow vegetables in the city with urban farming
12. UAE- Highway planting in Ras Alhima
13. Oman - Planting in Dhofar and other places
14. The Netherlands - vegetables, greenhouse in Elshout
15. Jordan - Soldiers Family Care Society
16. India - Gunda Trees near Barmer in Rajasthan
17. Ghana - African Afforestation Association
18. France - Resort Une Campagne en Provence - Bras, Riviera
19. Ethiopia - Selam Elementary School
20. Chile - Fundo El Rutal, Til Til
21. Bahrain
22. Algeria - Planting with World Food Programme Innovation Accelerator and Oxfam

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RE-USABLE PLANT COCOON