SAND BIRD GROUP

مجموعة ساند برد

Production | Distribution | Trade & Services

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COMPANY PROFILE:

Production, Distribution, Trade & Services

ABOUT US:

Sand Bird Group was established in 2010 head quartered at Sharjah U.A.E. Within a span of 5 years, Sand Bird Group expanded its operations to 28 countries across Europe, Asia and Africa. Our exclusive brand Solid Rain, Aquabits, Techno Glow products, Ambient Glow Technology & Charabot distributed in Europe, Asia and Africa. Sand Bird Group is fully integrated with its own state of the art infrastructure for production, distribution, trade & services . Our trade entity in India located in Kerala, India has started functioning with production of our Brands Chic Carina, Wide Rain, Green Plus Gypsum Plaster & Power Bliss Chemicals.

Sand Bird Group plants are located in India as well as in the Middle East. The infrastructure of production facilities is as per International Standards. Sand Bird Group continues to focus on new technologies and optimized work processes, aiming to significantly increase the efficiency in all our business processes. This allows us to redefine delivery windows for complete range of products, in order to provide on-time assistance to our distributors to meets today's demands and underpins our market leadership.

Our quality control management oversees the entire production process and ensures that our high quality standards are maintained from the selection of suppliers and procurement of raw materials to the delivery of the finished collection to our customers.

Associated Brands

SdA Agro Innova · AquaBits · Solid Rain · Wide Life · TechnoGlow · Chic Carina · charabot · AGT Ambient Glow Technology · Wide Rain · Green Plus Gypsum Exterior & Interior Plastering · Cluster Biotechnology · RMD

Mission Statement:

Sand Bird Group mission is to serve a worldwide customer base providing innovative international trading and solutions that recognizes the value of customer care.

"Satisfy customers by providing one touch access for world best brands"

Vision:

- To be the one stop solution for leading international brands with a wide customer base keeping an eye on social responsibilities.
- To ensure continuous supply of quality goods at affordable price

Our Goals:

- To generate a high standard of commitment to our customers.
- To treat our clients, suppliers and employees with honesty and respect.
- To grow in both business and personal life.
- To provide a quality working environment with advanced technology that enhance all employees quality of life.
- To offer an unsurpassed level of service at the most competitive rates.

MAIN BUSINESS:

Production, distribution, trade and service.

Vision :

Our Vision is to sell our customers products that will sell quikly and profitably, helping your business grow as rapidly as possibly in this sector.

We have continual supply of products which enables a company to buy these product all year round when you need them.

One of our key strengths is our reliability and thanks to our fully stocked warehouse you can plan your product range in complete confidence that your customers will never have to shop elsewhere.

Administration :

Company Name	:	**SAND BIRD GROUP**
Address	:	P.O. Box 121729 Executive Office Q 1-04-12/A SAIF ZONE,SHARJAH U.A.E.
Phone No	:	+919 846 643 399
Contact Person	:	**Mr.Mohammed Rafi Tholakkara (Director)** mrt@sandbirdgroup.com sales@sandbirdgroup.com gcc@sandbirdgroup.com
Branch address	: :	Sand Bird Group Shop no: 473/A, Infrasquare building, Parayanchery Mavoor Road, Calicut, Kerala, India widelife@sandbirdgroup.com

WideRain™

Save Water To Secure Your Future.

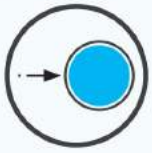
THE ULTIMATE SOLUTION

FOR IRRIGATION IN ARID ZONES AND LOW PRECIPITATION

INDEX

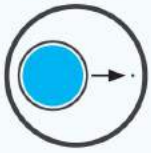
Wide Rainhas been working with and developing this product over the last 4 years, **It is capable of maintaining the plants hydrated** inarid zones and low precipitation. The irrigation system "Wide Rain" is capable of capturing the water and store it in molecular form without modifying its chemical structure. In this way the **liquid remains attached to the roots of the plants** without it Absorbed by the subsoil or evaporates, taking advantage in its entirety

The irrigation system "Wide Rain" is based on the use of a substance in the form of fine granulated powder whose content is poliacrilato potassium, a biodegradable polymer that absorbs and holds large quantities of water and nutrients when they are introduced into the soil or in any other culture medium.



Its chemical structure allows each granule to expand and absorb up to 500 times its weight in water, depending on the quality of the water, acting as a water reservoir that allows between 70 and 80 per cent of the stored water is taken by the root system of plants according to their needs.

This water retention capacity allows the development of plantations still in dry seasons making the maximum use of the esca- resources of water and nutrients available which ensures a healthy and stable growth of the crops.



The process of hydration is completely reversible, once the water is absorbed by the plant, the particle returns to its original size to absorb again.
This process can be repeated again and again during 5 years.

BENEFITS

The incorporation of Wide Rain improves the structure and capacity of retention of moisture from the soil which reduces the leaching and improves the availability of water and nutrients for plants. In this way the requirements of water can be minimized due to the reduction of losses by percolation or evaporation, and the interval between risk may be doubled, tripled or more.

Additionally, the extra reserve of water in the soil prevents the plants not to suffer from water stress which is essential in areas or times with low rainfall

1. Increases the water reserves in the soil for years.
2. Permits the cultivation of the earth under extreme conditions of climate and soil.
3. Provides to the plants a regular supplement of moisture.
4. Allows a better plant growth in regions of low rainfall.
5. Improves the aeration of compacted soils.
6. Reduces the frequency of irrigation and the quantities of water.
7. Reduces at least one third the percolation of nutrients in the soil: Savings of up to 50% on fertilizers
8. Protects the environment of drought, erosion, desertification and pollution of water.
9. Is compatible* with fertilizers allowing a greater development** of the plant.

*** The soluble fertilizers can function in combination with Wide Rain to provide a slow release to the plant since absorbs, stores and releases the soluble fertilizers and nutrients almost as quickly as the water. In this way reduce the losses by leaching of fertilizers (particularly nitrogen) and other important nutrients. However the presence of salts reduces the retention capacity of Wide Rain, which is corrected by taking the quantity increase- per liter of water. The main elements that affect the retention are iron, phosphates and cal.**

****recent studies have shown that the use of Wide Rain in mixture with fertilizers has allowed for a greater development of the plant, both in its aerial part as root, in front of witnesses with addition of the same quantities of fertilizer watered.**

TYPES OF APPLICATIONS

The types of application are as diverse as there are crops. For practical purposes we have classified in the following groups:

TRANSPLANTED TREES

All those species that are developed in the nursery and are subsequently taken to the field. Example of this type of crops are the forest species, trees and ornamental shrubs and fruit trees. The transplant causes normally problems of water stress and high mortality rates. The addition of WideRain greatly decreases the mortality rates and eliminates the problems of stress.

HYDROPONICS

Crops developed on substrates specially prepared. Highlights within this group the flower and vegetable crops. Here the main problems are the low capacity of retention of moisture from the substrate and thus the high volumes of water and nutrients wasted. The use of WideRain has allowed to obtain savings of water between 30 and 50 per cent in crops under greenhouse and have significantly increased the productivity of the Horticultural Crops to more than 30%

FIELD CROPS

Open field crops are normally worked with agricultural machinery. We can mention as an example the leguminous crops and cereals. These crops can be irrigated or not and its main problem is the scarcity of water resources and the high cost of irrigation. With Wide Rain allows the spacing of the frequencies of irrigation and the decrease in the volume applied. There have been significant increases in productivity in this type of cultivation by more than 30%.

OTHER APPLICATIONS

Transportation of seedlings to bare root, mulching, hidroseeding, meadows, gardens, cuttings, planting in bare root, padded and hydroseeding

WAYS OF USE

The mode of use of "Wide Rain" is quite simple:

You can apply dry or hydrated in dosages recommended by the technicians.

For transplanted species it is applied directly into the hole and is mixed with the land subsequently moisturizes and continued with the transplantation process as normal.

In hydroponics it is mixed with the substrate.

In field crops apply in the furrows before the last pass of the tractor that flips the earth.

Wide Rain is a highly efficient product and for this reason the dosages are quite low, making it economically profitable for farmers.

Its performance in use is generally 25 - 35 kilos per hectare with a functionality of up to 7 years.

CERTIFICATIONS

Ministerio Francés de Agricultura, APV 8410030

Departamento de Agricultura de E. U. (USDA) FDA21CFR1736

SAGARPA-MÉXICO No. SAGDR-331/E/VII95

HS Code: 3906.90

State of Hidalgo In Mexico

The results are as follows:

Agriculture	With Out Wide Rain	With Wide Rain	Persentage Increase
Corn	1,500 kg/ha	3,300 kg/ha	110 %
Bean	450 kg/ha	1,800 kg/ha	300 %
Barley	2,000 kg/ha	3,000 kg/ha	50 %
Sun Flower	1,000 kg/ha	3,000 kg/ha	272 %
Oatmeal	2,500 kg/ha	5,000 kg/ha	200 %

For Further Information or Interest in WIDE RAIN

Email: sales@sandbirdgroup.com
Telephone: India +91 9846 643399

MSDS

1. Identification of the product and the Company

THE NAME OF THE PRODUCT: Wide Rain

COMPANY: Sand Bird Group

NUMERO TELEFONICO: +91 984664339

2. Composition/Information on Ingredients

Identification of the product: super-absorbent polyacrylamide

3. Identification signal

When it is wet makes extremely slippery surfaces with water swells

4. Risks and First Aid

Inhalation: There is no special risks. Some itching in the nostrils

In contact with the Skin: Without risks. Some itching
First Aid: Wash with water

Contact with Eyes: Discomfort by the presence of dust
First Aid: Wash with water

Ingestión: Is not considered poisonous, hidratara with saliva
First Aid: Take clean water

5. Measures to combat fire

Suitable extinguishing media: Water, water spray, foam, carbon dioxide

(CO2), dry powder.

Fire extinguishing agents to avoid: None

Precautions during the extinction: The product when it is wet makes extremely slippery surfaces.

Special protective equipment for firefighters: They do not require special equipment.

6. Environment

Environmental Precautions: It does not pollute the water, soil or the air

Spills: Clean promptly sweeping or vacuuming. Keep in suitable containers and closed for storage, Avoid cleaning with water

7. Handling and Storage

Handling: Avoid contact with the skin and eyes. Avoid dust formation. Do not breathe dust. Wash your hands at the end of the job

Storage: Keep in a cool and dry place (0-35^{0}C)

8. Exposure Control / Personal Protection

Adopt measures to reduce the exposure: The local use of extraction if it produces dust. Natural ventilation is adequate in the absence of dust.

Personal Protective Equipment.

- **Respiratory Protection**: Dust masks of security is recommended, if the concentration of total dust is more than 10 mg/m3.
- **Protection of hands**: It is recommended to use Gloves
- **Protection of the eyes**: Safety glasses with side shields. Do not wear contact lenses
- **Skin care and protection of the body**: Special protection is not required

9. Physical and Chemical Properties

Form	Granular solid
Color	White
Smell	None
Melting Point (ºC)	No Aplicable
Flash Point (ºC)	No Aplicable
Auto-ignition temperature (ºC)	No Aplicable
Vapor Pressure (mm Hg)	No Aplicable
Density	0.7 a 0.8
Solubility In Water	Insoluble
Viscosity (mPa.s)	No Aplicable

10. Stability and Reactivity

Stability: The product is stable, non-hazardous is just a moisture retainer.

Precautions to be taken: Requires no special precautions.

Materials that must be avoided: To avoid water. The product swells in the water.

Dangerous products of combustion: Thermal decomposition may produce: hydrogen cyanide (Hydrocyanic acid), nitrogen oxides (NOx), carbon oxides

11. Toxicological Information

Acute Toxicity:

Oral	Non toxic - LD50/oral/rat>5000mg/kg
Skin	Non toxic - LD50/Skin/rabbit>2000mg/kg

Irritation:

Skin	Non-irritant
Eyes	Moderate Irritation due to the presence of the powders on the conjunctiva

Awareness: Not Sensitized

12. Ecological Information

Eco toxicity:

ON THE FLOOR: Are not known or expected under normal conditions of use.
IN THE WATER: It is unlikely due to its low solubility.
IN THE AIR: It is not foreseeable, always be found in the root

- Persistence / Degradability: is not readily degradable, <10% after 28 days will remain in the ground embedded by salts in the water.

13. Considerations on the Elimination

Waste Waste /Product Not Used: There is no disposable product, waste is mixed with earth and are useful.
Contaminated packaging: The containers must be washed and recycled, does not contaminate

14. Transport Information

Comments: You can produce, transport, store and use as a product

NOT DANGEROUS

15. Information about the product and Regulatory

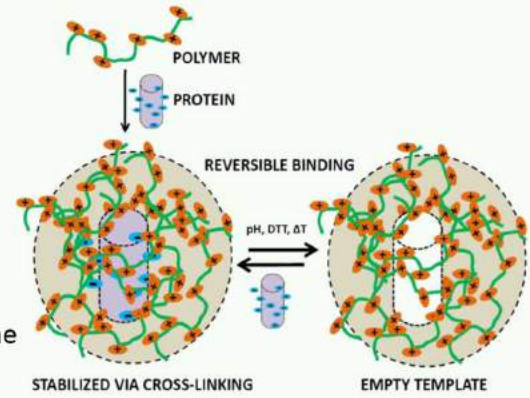
Contact Person: José María Guash

The information provided in this Safety Data Sheet is correct according to our knowledge, information and experience on the date of its publication. The information provided is intended only as a guideline for the safe handling, use, processing, storage, transportation, disposal and release and is not considered a warranty or the specified quality. The information relates only to the specific material designated and may not be valid for this type of material used in combination with any other materials or in any process is specified in the text.

WHY USE WIDE RAIN?

Wide Rain is a granular powder polyacrilato polymer of potassium, biodegradable non-toxic capable of absorbing up to 500 times its weight in water, and is used successfully by many producers to cope with the shortage of water, It is used in the agricultural and forestry sectors as well as in floriculture, horticulture and hydroponics. It acts as a retainer of water that allows between 65% and 80% of the stored water to be taken by the root system of plants according to their needs, and ensures a healthy and stable growth of the crops.

1. Increases the water reserves in the soil for years.
2. Permits the cultivation of the earth under extreme conditions of climate and soil.
3. Provides to the plants a regular supplement of moisture.
4. Allows a better plant growth in regions of low rainfall.
5. Improves the aeration of compacted soils.
6. Reduces the frequency of irrigation and the quantities of water.
7. Reduces at least one third the percolation of nutrients in the soil: Savings of up to 60% on fertilizers.
8. Protects the environment of drought, erosion, desertification and pollution of water.
9. Is compatible* with fertilizers allowing a greater development** of the plant.



Irrigation and rainwater captured by Wide Rain increase water reserves in the roots

Duration between 8 to 10 years

Retains the nutrients obtaining a great saving in fertilizers

WHY USE WIDE RAIN?

The soluble fertilizers can function in combination with Wide Rain to provide a slow release to the plant which absorbs, stores and releases the soluble fertilizers and nutrients almost as quickly as the water. In this way reduce the losses by leaching of fertilizers (particularly nitrogen) and other important nutrients. However the presence of salts reduces the retention capacity of Wide Rain, which is corrected by taking the quantity increase-per litre of water. The main elements that affect the retention are iron, phosphates and cal.

Recent studies have shown that the use of Wide Rain in mixture with fertilizers have resulted in a greater development of the plant, both in its aerial part as well as the root, with addition of the same quantities of fertilizer watered.

TYPES OF APPLICATION

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All those species that are developed in the nursery and are subsequently taken to the field. Example of this type of crops are the forest species, trees and ornamental shrubs and fruit trees. The transplant causes normally problems of water stress and high mortality rates. The addition of Wide Rain greatly decreases the mortality rates and eliminates the problems of stress.

HYDROPONICS

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FIELDCROPS

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OTHER APPLICATIONS

Transportation of seedlings to bare root, mulching, hydro Seeding, meadows, gardens, cuttings, planting in bare root, padded and hydro seeding.

ADVANTAGES OF WIDE RAIN

- Saves up to 90% of water in irrigation
- Lowers cost of productivity by not using so many fertilizers,less energy expenditure by pumping of wells and labour
- Used in fields where there is a limitation of water areas with water shortages, or where it is intended to deploy crops with higher water requirements.

WATER SAVINGS

> Holds up to 90% of water from rain or irrigation, avoiding the evaporation, leaching or percolation.

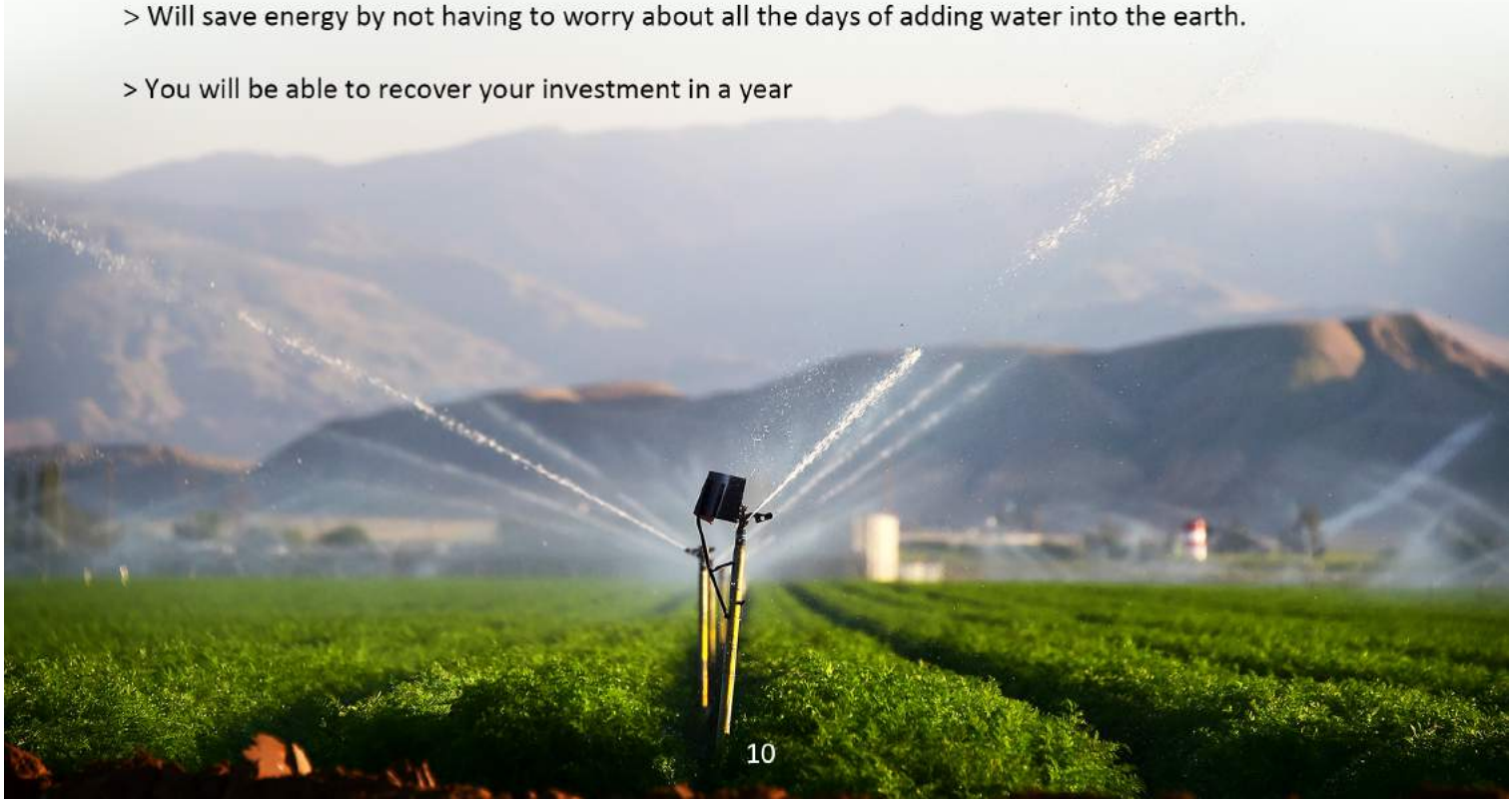
> The root system of the plant absorbs only the moisture it needs. In this way the moisture in Wide Rain handles up to three times more without having to return to the Irrigation.

ENERGY SAVINGS (ELECTRICITY, FOSSILS)

> By not having to irrigate daily and not having to put water pumping devices on giving a saving of light or fossil energy in this type of machinery of up to 60%.

> Will save energy by not having to worry about all the days of adding water into the earth.

> You will be able to recover your investment in a year



ADVANTAGES OF WIDE RAIN

SAVINGS IN FERTILIZER USAGE

> Wide Rain is not a pesticide and is totally harmless.

> It can be added in pots, gardens or orchards fertilizers or fertilizer to help feed the plants with nutrients.

> Wide Rain improves the absorption of these nutrients to retain them equally to the water and to help the root system of the plant tous only what it needs.

> With Wide Rain, fertilizers will not evaporate, leach or per colan,as they are absorbed by the product which then feeds the plants or crops.

MULTIPLICATION OF THE CROPS

>The plants or crops do not suffer waterstress.

> The nutrients are absorbed by their root system more efficiently.

> Making the earth more loose so that the roots can expand with more ease which favours the growth of the plants and crops.

> Multiply the benefits of the crops to be guaranteed the same.

WIDE RAIN APPLICATIONS

- **Trees**
- **Large Agriculture**
- **Orchards**
- **Gardens**
- **Potted Plants**
- **Lawns**
- **Hydroponics**
- **Repopulation of forests by deforestation or fire**
- **Round abouts, gazebos and other mediums**
- **Golf Courses**

HOW TO USE WIDE RAIN

> Wide Rain can be applied as dry, or wet. For its application in wet, Mix 10gr of product per litre of water.

> Plants already established in pots: perform with a utensil holes of between 30%and 70% of the depth of the pot. Mix the substrate, nutrients and Wide Rain, fill holes and cover with a fine layer of substrate. Pot diameter30cm=10gr.

> Newgrass: Mix the product with substrate and apply on the ground a layer of 5 to10 cm thick. Dose 30-50gr/m2.

> Gardens: Apply in the furrows of the depth of future roots the product. Dose 3gr per linear meter of furrow.

TREES ALREADY PLANTED

Dig a trench along tree canopy of 15 to 40 cm of depth around the tree. Apply the product mixed with the substrate. Less than 2 meters 70gr



For Further Information or Interest in Wide Rain
Email:sales@sandbirdgroup.com
Telephone: India +91 9846 643399

HOW TO USE WIDE RAIN

APPLICATION ON EXISTING LAWNS

Cut the grass as much as possible

Scratching as far as possible and remove the cut grass

Aerate THE SURFACE OF lawn, making sure ventilation holes have a depth greater than 8 cm.

Add Wide Rain at a variable rate depending on the quality of the water and soil texture 30- 50gr/m2. Then brush or blow the product into the holes that were made during the refreshing process.

Plant and add substrate (3-4 cm). Finally compact the surface applied with a pass of a roller and irrigate abundantly.

Note: It is recommended to be very scrupulous in the application and quantities of the various products as it will be prepared to remain in the ground in such an optimal way and reducing the irrigation over the next 4-5 years. In order to ensure the successful implementation of the product, we can offer you advice or any queries you may have. **(Consultant)**

HOW TO USE WIDE RAIN

1.- PRODUCT DESCRIPTION WITH TECHNICAL SPECIFICATIONS

The product is a new solution for irrigation, developed from the **potassium poliacrilato**, known polymer moisture retainer.
Evolved especially to adapt to the conditions of the crops, and the needs of the plants, and helps to ensure normal growth during long periods of water scarcity, prolonging its action for years.

The main advantages are:
- Storage of water to 500 times your dose of application.
- **Does not leave moisture** in soil. The water is only used by the root of plants.(drastic decrease of evaporation). Patented by this property
- Durability in soil up to 5 years. Compatible with localized irrigation systems, as well as spraying or blanket.

Its principle is the physical adsorption of water molecules.

ADVANTAGES

- **Provides to the plants of a regular supplement of moisture**
- **Improves the aeration of compacted soils**
- **Reduces the frequency of irrigation and the amount of water**
- **Reduces at least one third the percolation of nutrients in the ground**
- **Stabilization of the vegetative periods of the plant**
- **Applying the product on dry or hydrated**

TECHNICAL CHARACTERISTICS

Form: granulated Solid
Color: white cream
Granulometry: 0.35 to 0.5 mm.
Ph: Neutral
Density: 0.7-0.85 Kg/Dm3
Solubility in water. Insoluble
Time of absorption: until 20 min.
Storage: rather dark and dry for an indefinite time
Composition: Polyacrylamide Poliacrilato
Active life on earth : up to 10 years. (the salinity of the water worsens behavior)

HOW TO USE WIDE RAIN

3.-DOSE WHEN APPLYING THE PRODUCT ON DRY

DOSE

TREES	PRODUCT
> 3 meters	80 gr of product /tree /m3

For your application - perform the following steps :

A) open a hole in the ground of dimensions in accordance with the size of the tree. Remove and aerate the soil

B) Dose : Add in the volume of earth removed or its equivalent in the substrate

Apply the product per tree for a caliber 18-20 and setting a height greater than 3 meters is :

> 3 meters	80 gr of product /tree /m3

Add part of the **MIX/substrate with product** deposited in the bottom of the pit

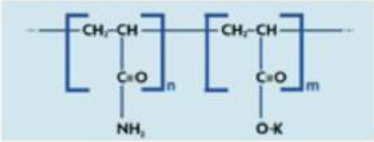
C) Introducing the tree in the hole (ensure that is the neck at the level of the Ground , not buried) Put the remaining mixture of the **product and the earth** in the pit planting and to firm down to settle

HOW TO USE WIDE RAIN

D) Irrigation .

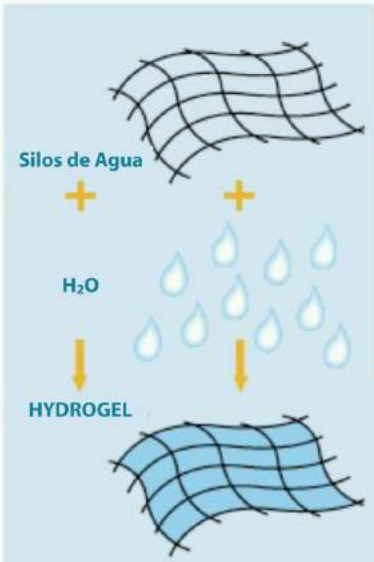
At the time of planting, irrigate with plenty of water, until it is water logged. In the period of a week after the planting, repeat the irrigation until it is flooded. After this has been done, the period should be extended for irrigation with the discretion of the technician or situation of incipient water stress of the plant

WIDE RAIN



Wide Rain is a polymer made from super absorbent acrylates. It has the capacity to absorb up to 500 times its weight in water and to maintain humidity and nutrients for up to 9 months depending on the quality of the water and the soil; After that time the acrylates return to their original state and are able to absorb new irrigation or rain water, without modifying the chemical structure of the same, resulting in rainwater in small pieces.

Wide Rain has an active capacity of absorption up to 7 years and its retention of water in the soil, allows the plant to take the water it needs without water stress accelerating its growth and increasing its production.



COMPOSITION

90% Polyacrylamines

HOW IT WORKS

The polymer is composed of a set of polymer chains that are parallel to each other and linked together by regular cross-linking, forming a network. When the water comes into contact with one of these chains, it enters the molecule by osmosis. The water moves rapidly into the network of the polymer in

WIDE RAIN Vs OTHER PRODUCTS

Similar products are on the market based on polymers that also retain water. The differences between these and Wide Rain of As are as follows:

Wide Rain	OTHER PRODUCTS	
Potassium-based compound	Sodium-based compound	The sodium-based compounds, once hydrated, are converted into a paste that mixed with the soil ends drowning the plant. Aqua Rain does not form pastes, is a granulate that allows the oxygenation of the plant
Maximum shelf life: 7 years	Maximum shelf life: 4 years	+ 175% of duration. Lower investment
Retention: up to 500 times its weight	Retention: up to 200-300 times its weight	Greater savings. Increased drought safety

WIDE RAIN

The choice of particle size to use is an important factor to consider based on soil type

GRANULES

In dense soils (eg, clay), granules are preferable. They increase soil porosity due to its large expansion capacity

LITTLE

In porous soils (eg, sands, fertilizers) use a small particle for a greater absorption of water.

VERY DELICATE

In crop preparation, use a very fine product for the proper protection of the roots.

For the very thin product:
Due to its volatility, it is recommended to use a dust mask. If the product is hydrated before use, carefully pour the product into the water. Stirring slowly will prevent lump formation.

Additional information:
The higher the water temperature, the faster the water will be absorbed by Wide Rain. All Wide Rain products have a high absorption capacity. If product spills, do not pick up with water. The terrain would become extremely slippery. Breathe it or aspire it. To clean the equipment, do it with compressed air. Avoid contact with skin and eyes (gloves and goggles recommended)

ENVIRONMENTAL INFORMATION

Bio Degradable
The polymer is very sensitive to the action of ultraviolet rays that transform the polymers into oligomers (smaller molecules). Therefore, it is very sensitive to the aerobic and anaerobic processes of microbiological degradation. Wide Rain, therefore, degrades naturally in the soil (up to 10% - 15% per year) in CO2, H2O and nitrogen compounds

Bioaccumulation
The polymer is very voluminous to be absorbed by the tissues and cells of plants. Its bioaccumulation capacity, therefore, is zero. (Studies No. 97-78 of the SCPA). The period of effectiveness of Wide Rain in the field varies from 1 to 7 years, depending on the size of the particles and the agroclimatic conditions.

IX Premio Anual de Ecología y Medio Ambiente 2002.
Fundación Miguel Alemán. 2002

SAFETY INFORMATION

This product is not dangerous: it is certified by the FDA and the French Ministry of Agriculture and Fisheries

Ministerio Francés de Agricultura: (APV) 8410030

Departamento de Agricultura de E.U.: (USDA) FDA 21CFR1736

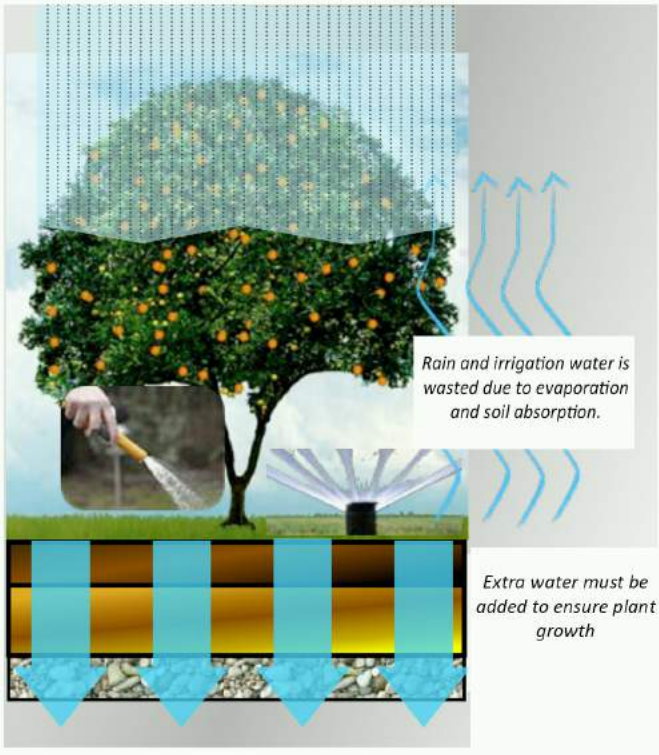
Wide Rain is a non-combustible or carbonless plastic polymer that complies with OSHA 29CFR 1910 1200 which in the United States of America authorizes the production, transportation and use as non-hazardous material. In case of fire, extinguish with "A, B, C" class extinguishers.

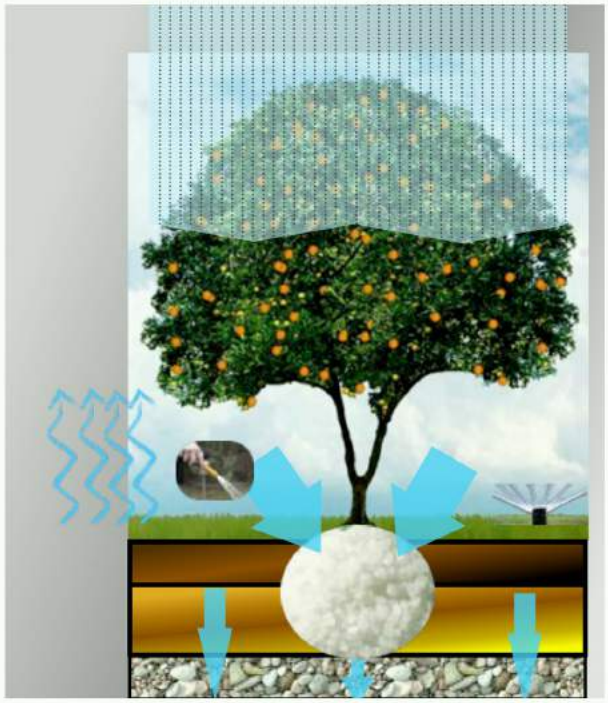
Toxicity: The product Wide Rain demonstrates non-toxicity (rates of 5000 mg / kg).

Although Aquabit is not hazardous, the following aspects should be considered.

Inhalation	Dust may irritate the respiratory tract
Ingestion	May cause gastrointestinal discomfort or discomfort. Low oral toxicity
Eyes	Dust may cause mild irritation
Skin	May cause irritation, speci fi cally after prolonged and repeated contact
Chronic Toxicity	Not known

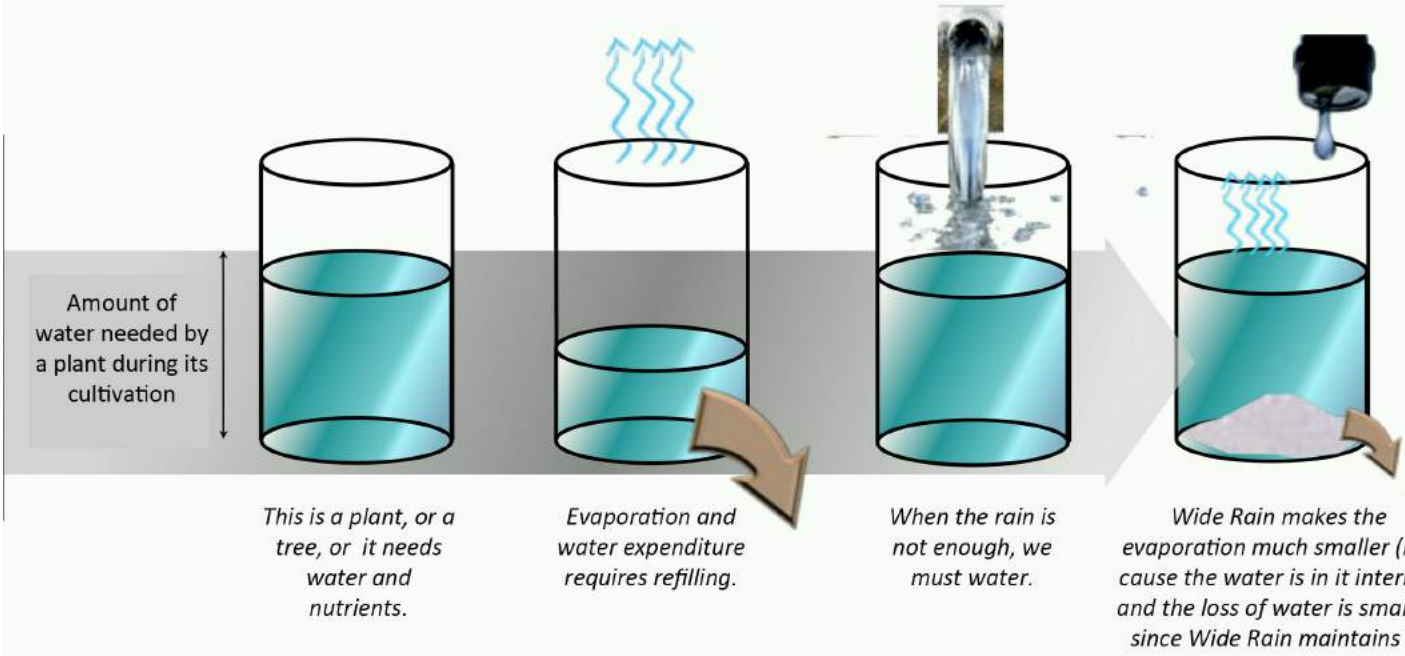
SCIENTIFIC WORKING

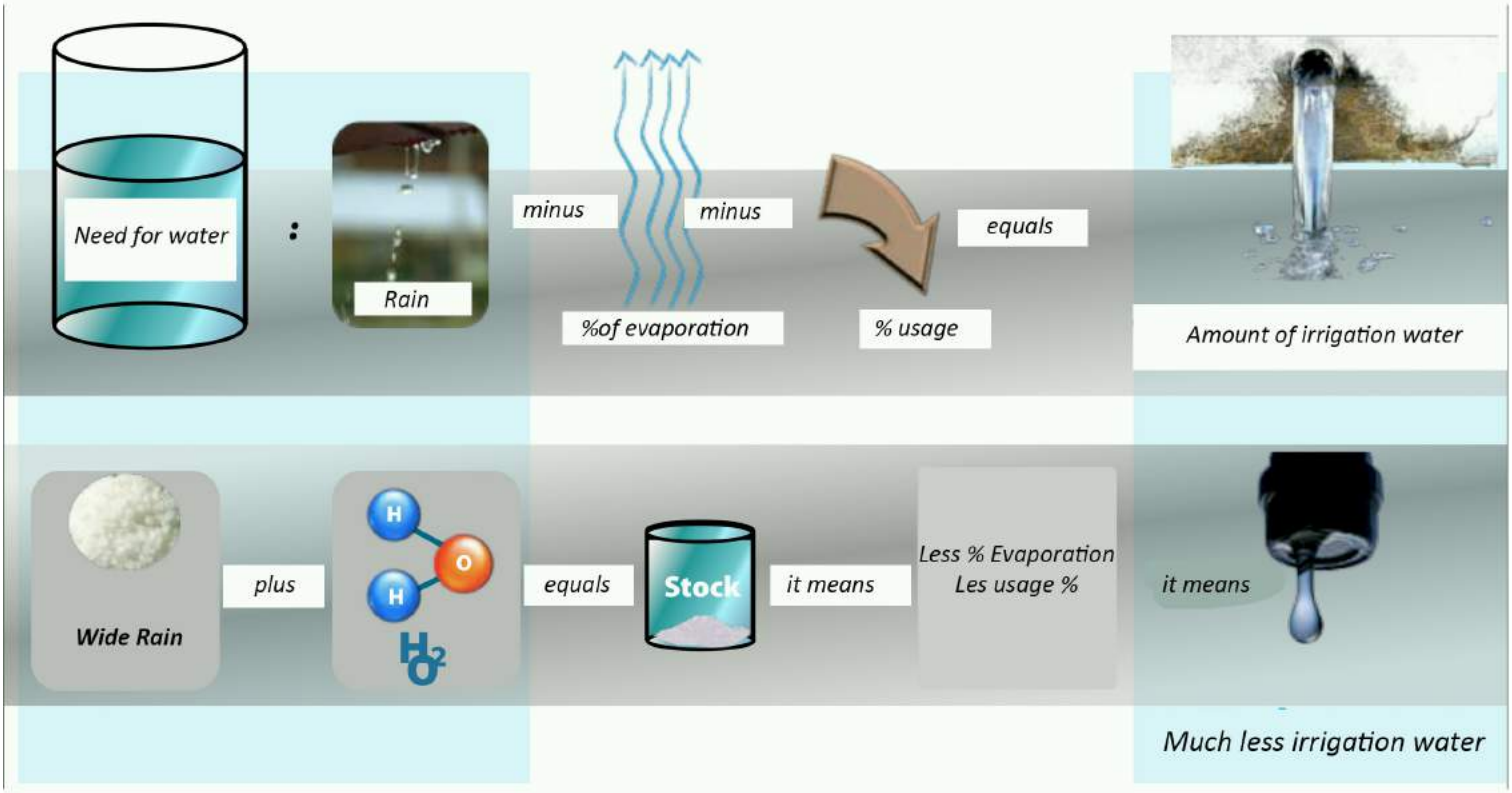




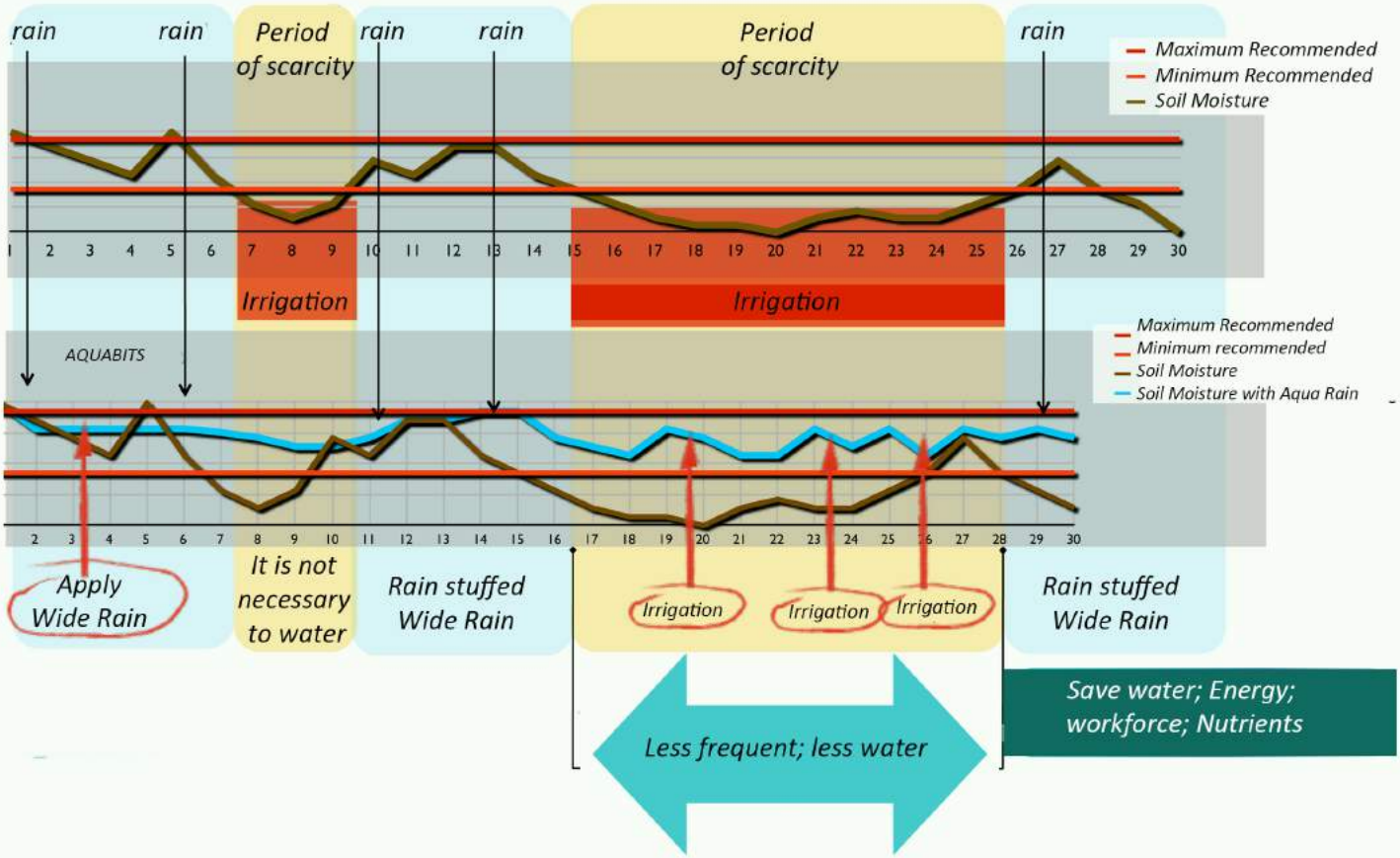
Wide Rain absorbs water up to 500 times and keeps the roots hydrated, and therefore, reduces evaporation and water and nutrient consumption.

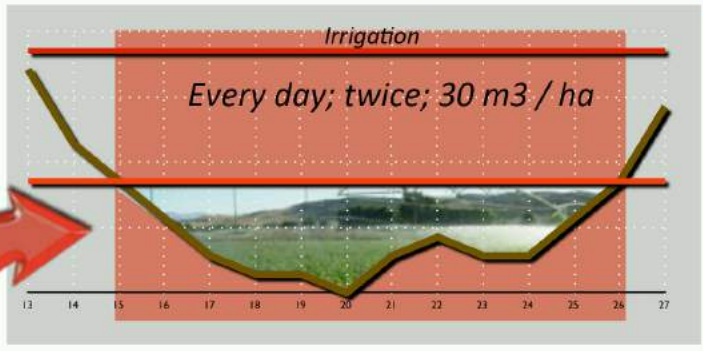
THE MODEL

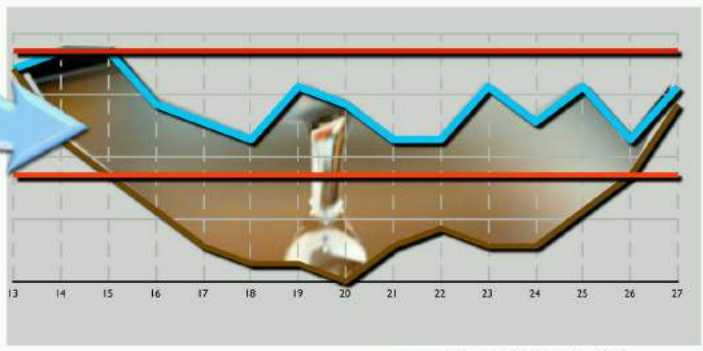

Amount of water needed by a plant during its cultivation
This is a plant, or a tree, or it needs water and nutrients.
Evaporation and water expenditure requires refilling.
When the rain is not enough, we must water.
Wide Rain makes the evaporation much smaller (because the water is in it interior) and the loss of water is smaller, since Wide Rain maintains it.


Need for water
:
Rain
minus
minus
%of evaporation
% usage
equals
Amount of irrigation water
Wide Rain
plus
H
O
H
H2O
equals
Stock
it means
Less % Evaporation
Les usage %
it means
Much less irrigation water

THE MODEL







Maximum Recommended
Minimum recommended
Soil Moisture
Soil Moisture with Aqua Rain

Scenario: 50% water saving

Every 2 days; 2 times; 30 m3 / ha
Each day; 2 times; 15 m3 / ha
Every day, once; 30 m3 / ha

Each farmer should still evaluate based on the experience at the right time and the amount of irrigation based on the type of plant, the soil and the appearance of the leaves.

ADVANTAGES OF WIDE RAIN

1.SAVING WATER

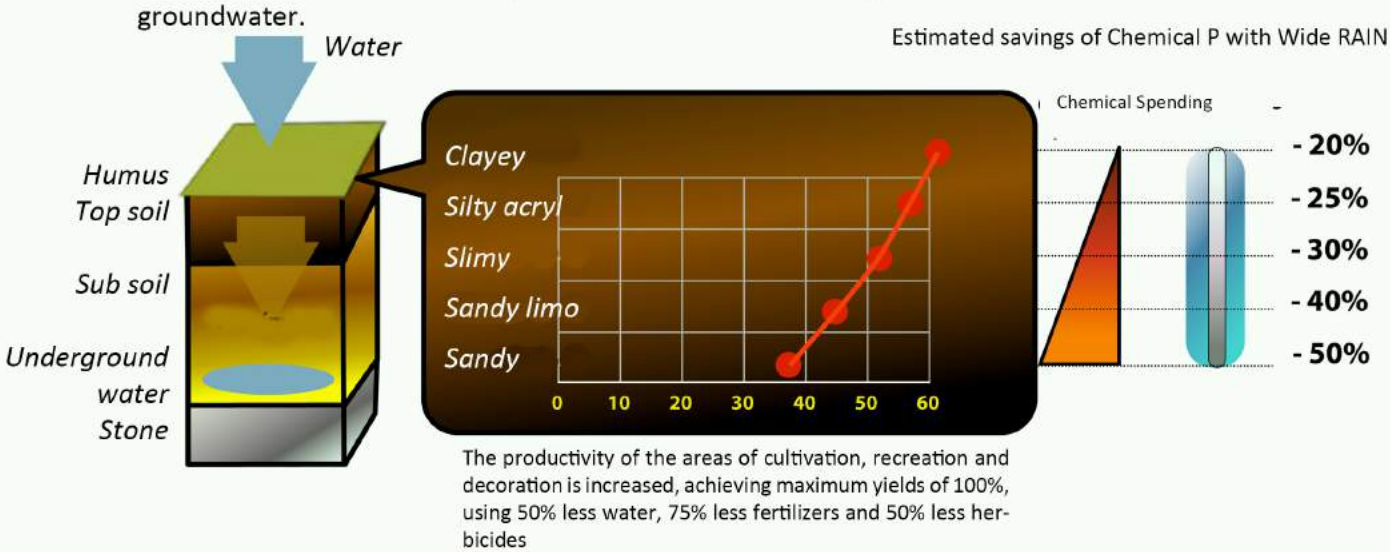
Wide Rain stores up to 500 times its weight and provides the plant with the amount of water it needs from the beginning. Limit water expenditure. Reduces evaporation from the soil In addition, it sponges the soil so that it can also retain more water. The frequency of irrigation can be reduced from 50% to 90%.

2.IMPROVEMENT OF SOIL

Wide Rain sponge the soil improving the properties of a compact soil through better aeration. Enriching the soil by preventing the appearance of cracks, soil breakage and desertification that is so devastating in some areas. Protects the environment from drought and contamination of ground water.

3.SAVE NUTRIENTS

The nutrients and the FERTILIZER are necessary but they degrade the soil and are lost with the irrigation. The less it absorbs the top of the soil, the more chemicals are needed, which further degrade the soil, making the land poorer and causing us to lose more money, in addition to contaminating the groundwater.

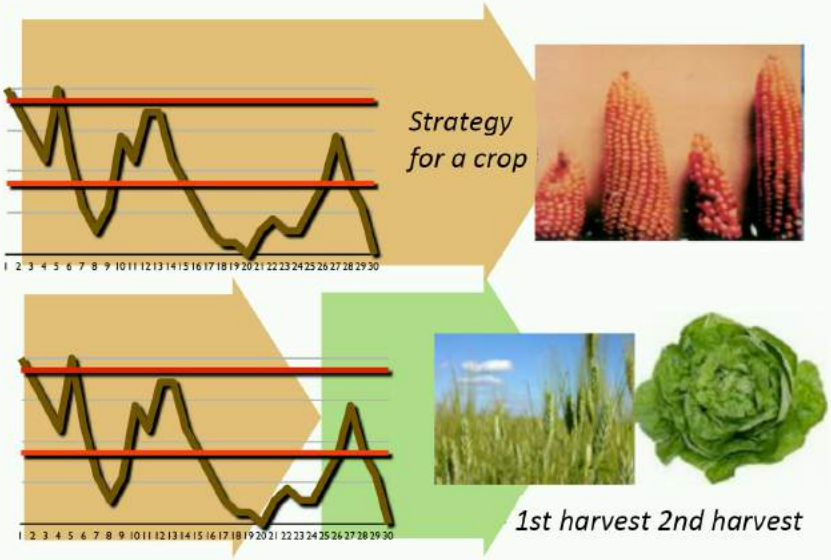


The productivity of the areas of cultivation, recreation and decoration is increased, achieving maximum yields of 100%, using 50% less water, 75% less fertilizers and 50% less herbicides

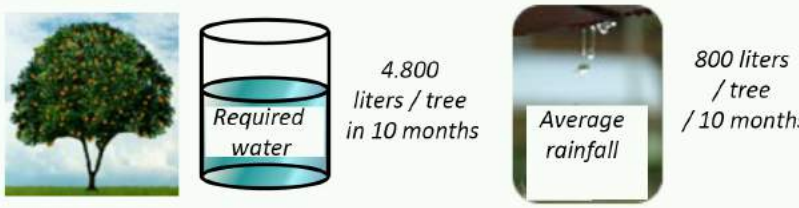
ADVANTAGES OF WIDE RAIN

4.IMPROVES PERFORMANCE

Wide Rain increases plant growth because water and nutrients are available in the root zone for optimal absorption by plants, and thus provide the basis for a more productive crop. However, it is also possible to obtain more thanks to the cultures of Wide Rain. Once you can get the productivity you want with the first crop you can pick it up and start with a second one as soon as the land is ready overall, thus maximizing return on investment. Wide Rain is a productivity enhancer per hectare.



Plant	Wide Rain	Control	Difference
Maize	3,300 kg/ha	1,500 kg/ha	+110%
Bean	1,800 kg/ha	450 kg/ha	+300%
Barley	3,000 kg/ha	2,000 kg/ha	+50%
Sunflower	3,000 kg/ha	1,000 kg/ha	+272%
Oats	5,000 kg/ha	2,500 kg/ha	+200%



Why 4,000 liters in 10 months

- *Rain is not enough Not all rainwater is "effective"*
- *It does not always rain when it is needed*
- *Evaporation and expense of irrigation water*

Rainwater ratio	*Evaporation ratio*	*Expence ratio*
50%	**30%**	**40%**
800	**4.000**	**4.000**
400	**1.200**	**1.600**

3.200 liters spent

- *Drop by drop irrigation has less usage*
- *Assuming the same evaporation rate per week*
- *The expenditure ratio may vary depending on the type of soil.*

ADVANTAGES OF WIDE RAIN

5.AN EXAMPLE

4,000 liters in 10 months → *Watering: once a week: 100 liters / tree / week*

Rainwater ratio 50%	*Evaporation ratio 30%*	*Expense ratio 40%*
2 liters / week / tree	*100 liters / week / tree*	*100 liters / week / tree*
1 liter / week / tree	***30 liters / week / tree***	***40 liters / week / tree***

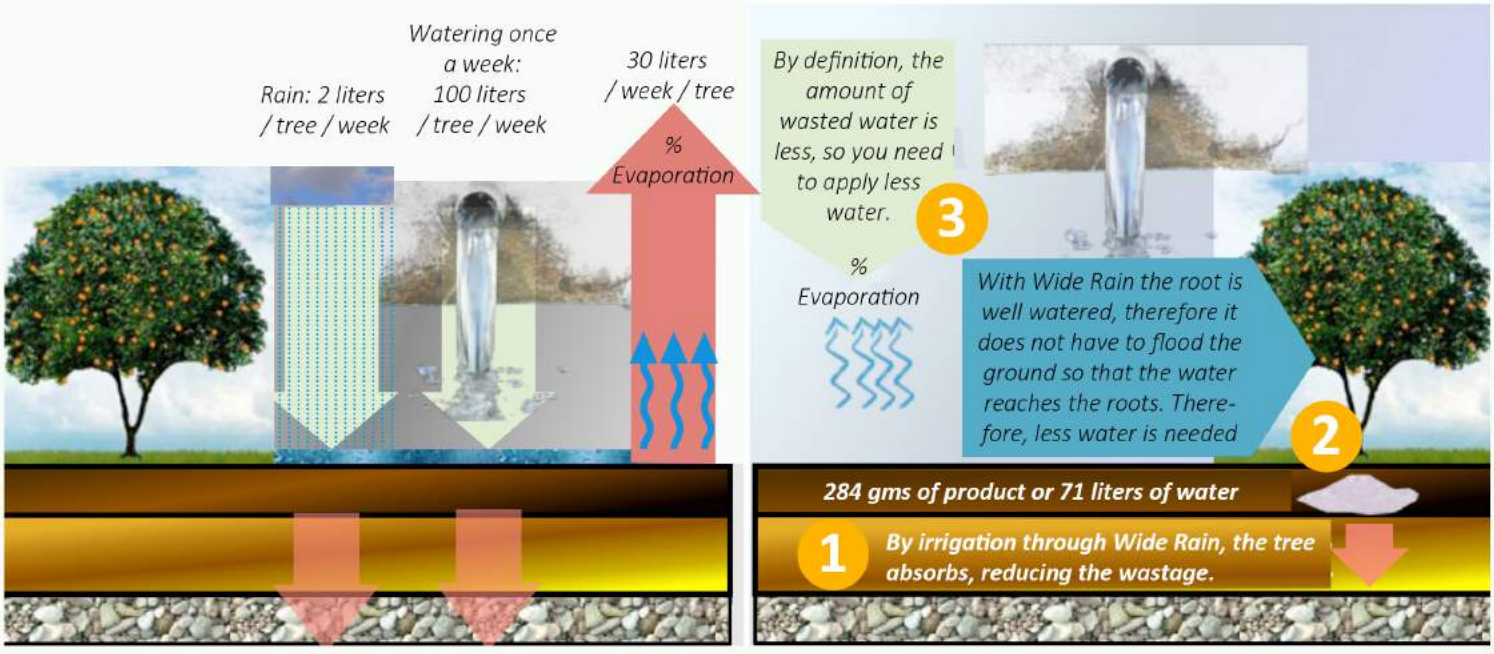
71 liters spent / week / tree

Keeping 71 liters in the reserve could stop water stress

2,840 liters per TREE in 1 year 19,880 liters PER TREE in 7 years In addition to tons of nutrients and f. Chemicals.

LOST

If Wide Rain retains 250 times its weight → *71 liters / 250 times* → *284 gms of product*

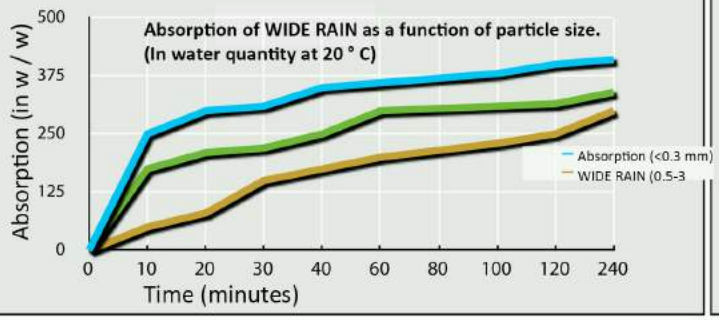


Spent: 40 liters / week / tree

RESULTS

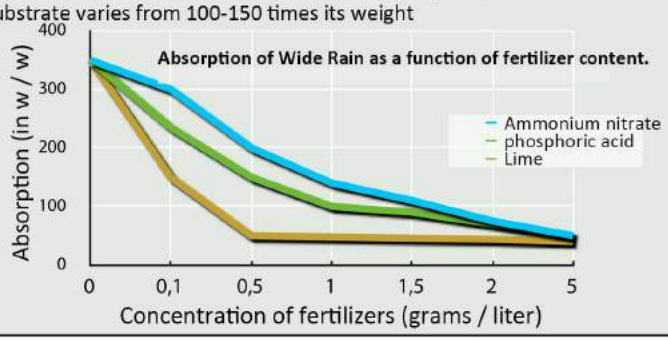
Absorbability

In general, the more precisely the particle size of the polymer, the greater the rate and the absorption capacity.



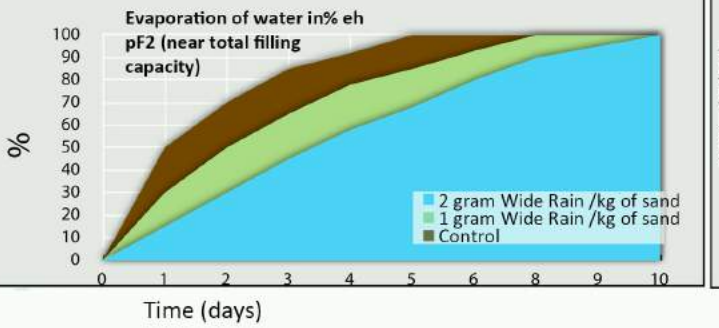
The influence of salts.

The presence of salts and electrolytes in the aqueous medium significantly reduces the absorption capacity of Aqua Rain. This explains the fact that the storage capacity of Wide Rain in a substrate varies from 100-150 times its weight



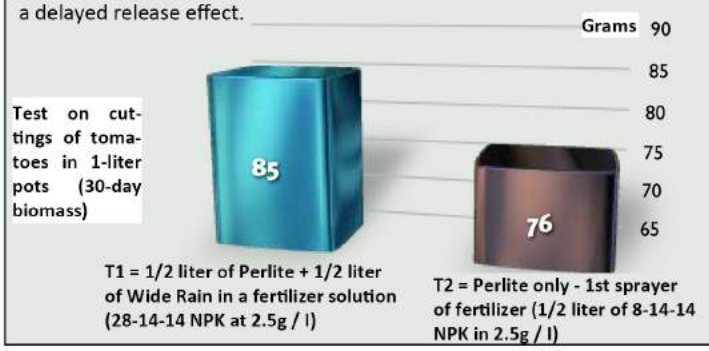
The wilting point is delayed

Wide Rain makes it possible to increase the water retention capacity of the soil and delay the point of wilting. A sandy soil treated with 2 grams of Aquabits per kg of soil retains 2 times more water than an untreated soil.



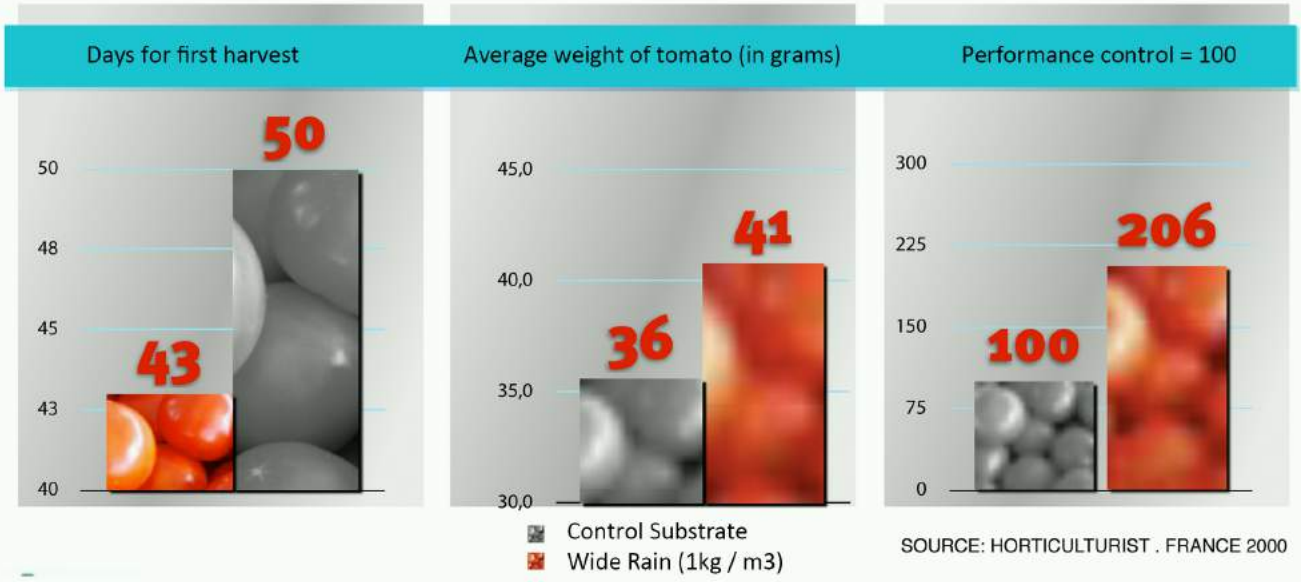
A reducing effect on fertilizer expenditure

Wide Rain significantly reduces the expense of fertilizers, because they are stored in their "mesh". Fertilizers are available to plants longer because of a delayed release effect.



EFFECT OF AQUA RAIN ON GROWING TOMATOES

Wide Rain improves horticultural crops due to better aeration of the substrate. The date of the first harvest is earlier, allowing a greater rotation of crops.



RESULTS

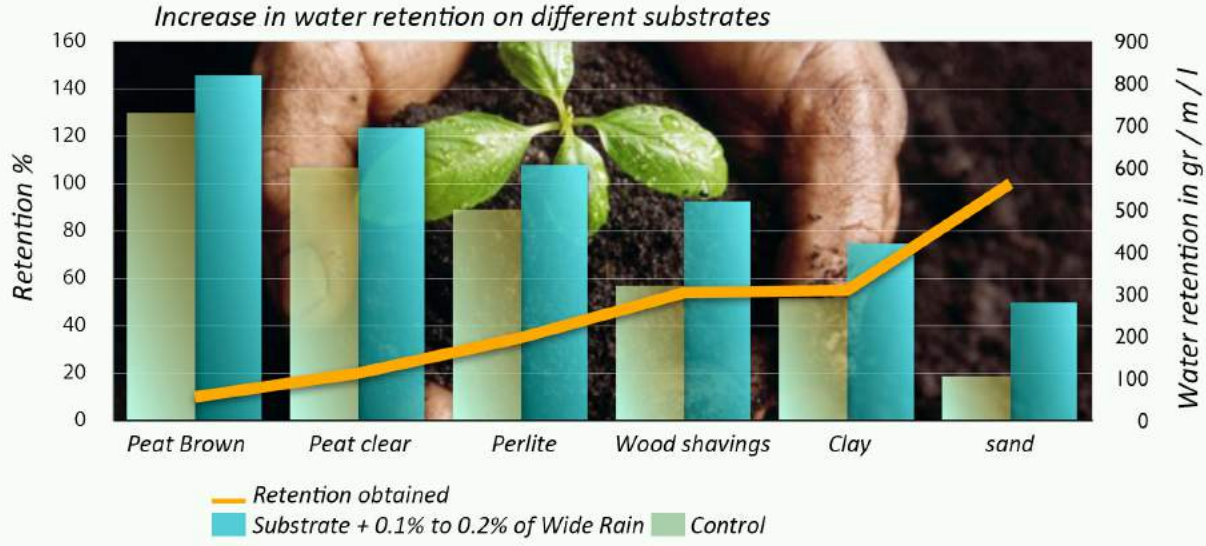
EFFECT OF WIDE RAIN ON THE GROWTH OF SUGAR AND SUGAR CANE

In sugarcane rainfed agriculture, Wide Rain improves transplantation and growth rates of sugarcane shoots during the dry season and has allowed a significant increase in yields. The yield of the treated plots with 15 kg / ha has increased by 25% compared to the control plantations. Wide Rain were applied locally in the crop furrow when the shoots were replanted.

Source: MSIRI - Mauritius 1997

WATER RETENTION BY SUBSTRATE TYPE

Wide Rain makes it possible to improve the water retention of the substrates. Irrigation frequency is reduced by reducing water and tillage costs.



RESULTS

MORTALITY IN YOUNG TREES

In arboriculture, Aqua Rain reduces the mortality of young trees during the summer by 50%

Mortality ratio of young trees during their first year after transplantation.

Source: ONF - Corsica 1998

COMPARITIVE EVOLUTION OF TWO TREE SPECIES IN MODIFIED SOIL POTASSIUM POLYACRYLATE

The objective of this experiment was to verify the assertion that super absorbent polymers improve tree growth when used for tree planting in urban areas. This project is a joint effort between the Universidad Autónoma Metropolitana Azcapotzalco and Wide Rain, in order to experimentally test the ability of the super absorbent polymers to release water in the roots to avoid the continuous irrigation of newly planted trees.

The soil used is a clay loam with very high organic matter content . Ten seedlings of each species were planted in soil mixed with potassium polyacrylate. Two parts (by volume) of hydrated potassium polyacrylate [1.25 kg of potassium polyacrylate with 200 L of water] are mixed with three parts of earth. The other ten seedlings have been grown on the land by themselves. The land alone could not afford more than a third of water. Containers are kept in an indoor room with a transparent roof to provide natural light and absence of wind or environmental disturbances such as rain or pest problems for the entire experiment. The health of trees is monitored regularly. Water has been added when the humidity drops below the registered levels of 50% of the soil moisture. The plants were not subjected to severe water stress.

The experiment was installed on April 4 and 5, 2008. A meter was placed under each vessel to detect water running through the containers. Observing and measuring the root system and vigor of each seedling, half of the seedlings (five) were harvested on August 14, 2008, after 19 weeks, completing the first phase of the study. These results are presented here.

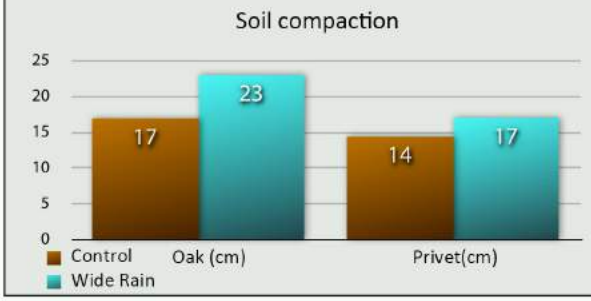
Quercus rugosa (Oak)

Ligustrum lucidum Ait. (privet)

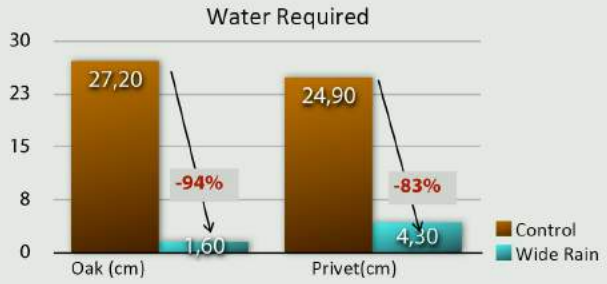
RESULTS

COMPARITIVE EVOLUTION OF TWO TREE SPECIES IN MODIFIED SOIL POTASSIUM POLYACRYLATE

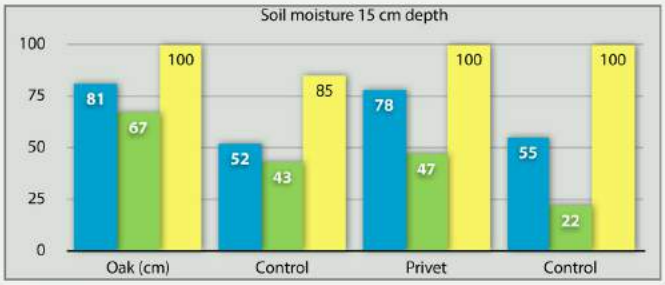
The results of the test showed a significant better soil compaction in both types of trees.

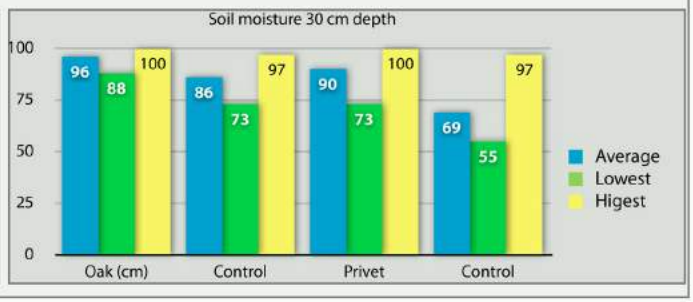


The results of the test show a significant improvement in the reduction of water consumption. In fact the tests with Wide Rain were not watered during the test period (19 weeks)



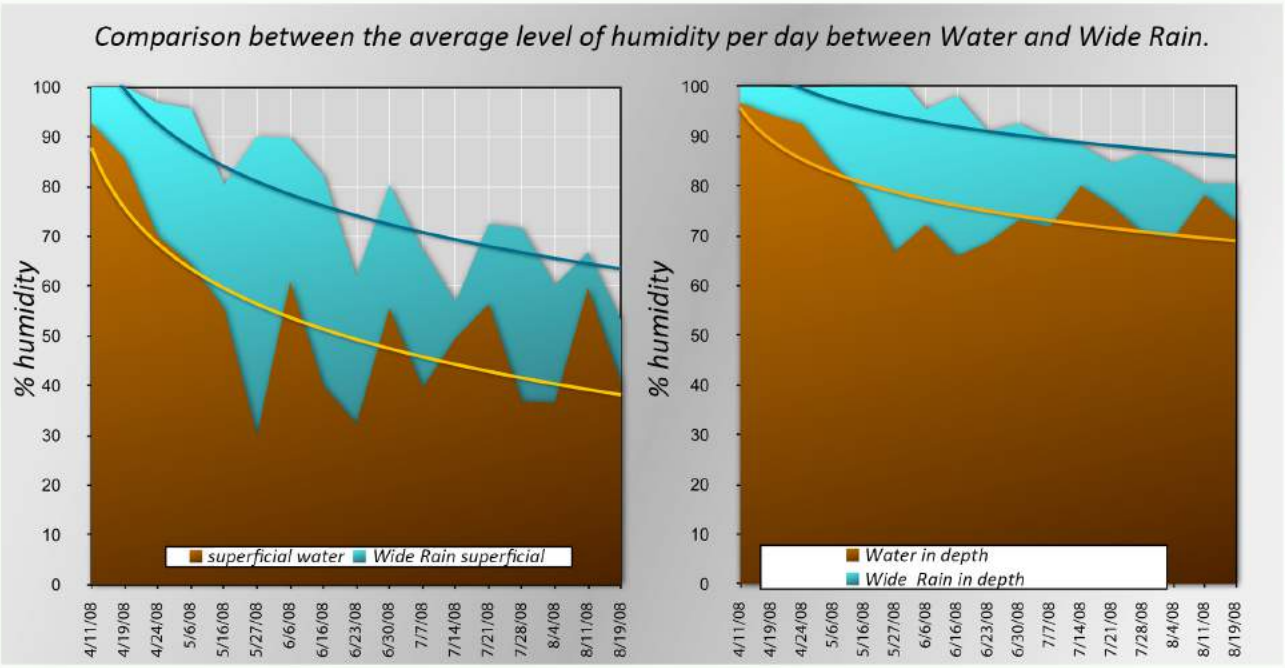
The results show significantly higher soil moisture especially at 15 cm depth, corroborating the product's ability to reduce evaporation.





The results show significantly higher soil moisture especially at 15 cm depth, corroborating the product's ability to reduce evaporation.

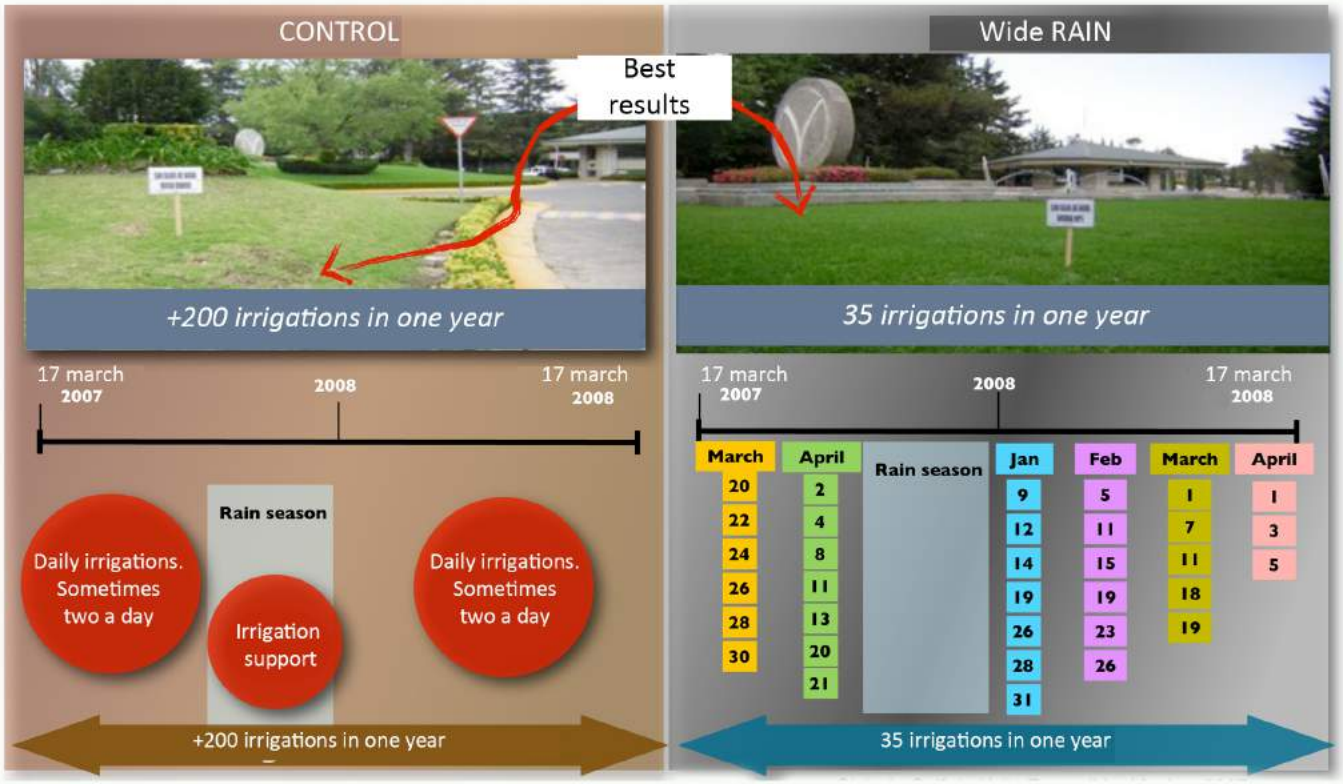
Comparison between the average level of humidity per day between Water and Wide Rain.



RESULTS

PLANTATIONS IN GRASS

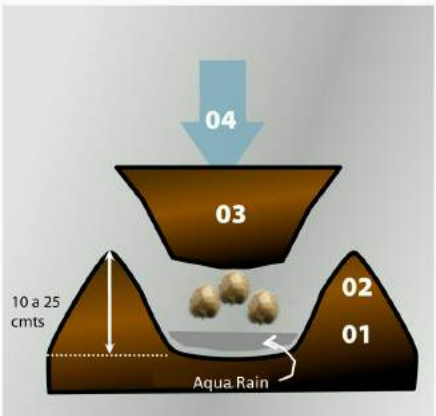
Wide Rain improves the appearance of lawns and lawns as well as saving significant amounts of water.



WHERE DO YOU USE IT

CROPS

- The application ofWide Rain in intensive crops can be done by planters, or if the crops do not allow the entrance of the tractor can be done with draft animals and a plow, taking into consideration the depth to which we must apply.
- After the harvest, the product is left in the grounds so it is advisable to apply the techniques of Zero Tillage to keep it in the field the recommended 7 years.
- Wide Rain can also be installed in cases where rain is delayed or interrupted to avoid losing the crop.
- In rainfed crops it can simply eliminate irrigation and dependence on rain since it can be applied already hydrated so that the seed and plant begins to develop from the first moment.

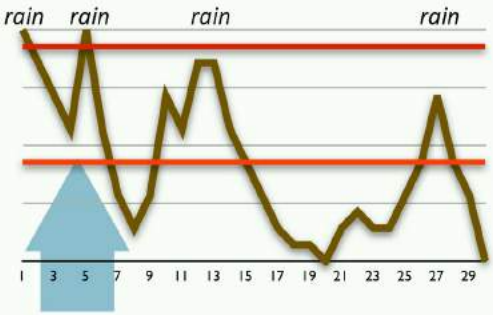


However, and for guidance we can say that the consumption per Ha. Is 250 kgs./ Ha .; Quantity always subject to the study and recommendation of our technicians

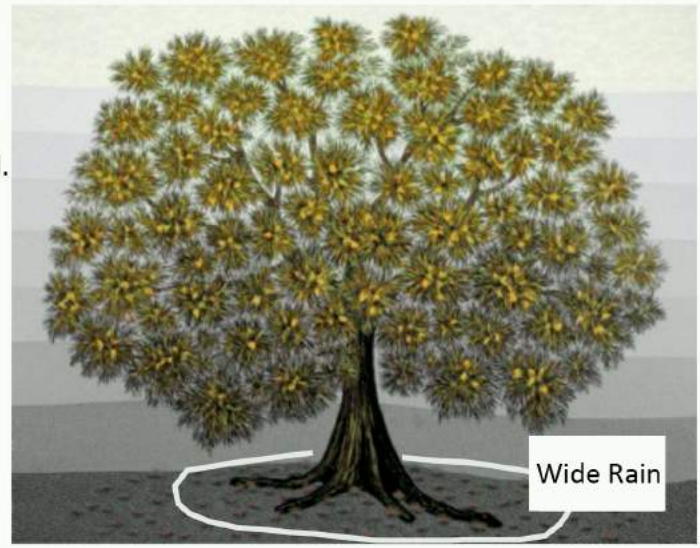
WHERE TO USE

FRUIT TREES

1. Make a large hole around the tree.
2. Apply the product with a pipe that deposits it in the roots.
3. A large tree would need 200 gms evenly distributed.
4. Plug the hole.
5. Hydrate abundantly to fill Wide Rain

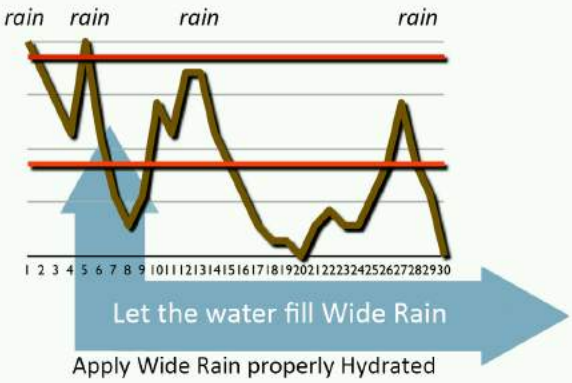


Apply properly hydrated Wide Rain



TREE PLANTATIONS

1.Dig a hole.
2.For large mature trees: mix 200 gms of Wide Rain per m3 (90% of the soil only)
3.For small trees: you have to evaluate, but consider that for a first planting of a young tree needs a minimum of 75 grs / m3
4. Put a third of this mixture in the bottom .
5.Plant the tree and fill the gap with the other 2/3 of the mixture.
6. Use unmixed soil to cover everything.
7. Apply water to fill Wide Rain



Apply Wide Rain properly Hydrated

(*) You can also mix Water Silos and super hydrated.

To transplant

Reforest

Apply to a tree

WHERE TO USE

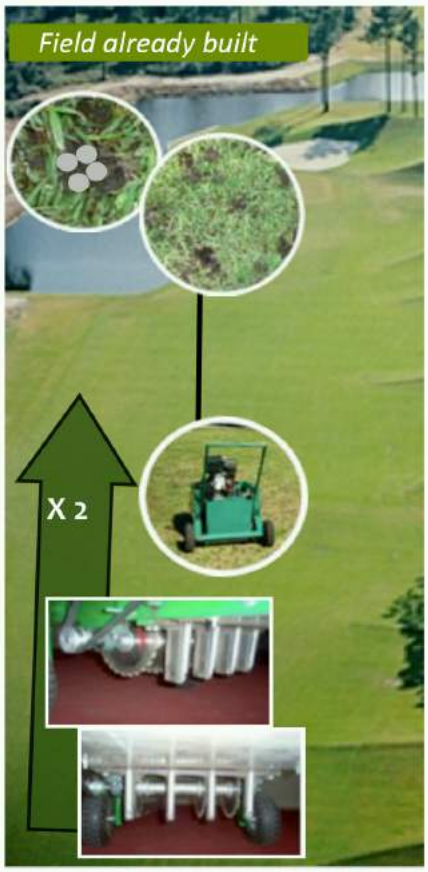
GOLF COURSES

Wide Rain is a solution to this problem since at least (depends on the area) saves 50% of water to the fields by using the maximum potential of rainwater in each area.

If it is a new installation the process is simple: 500 grs of powdered product are mixed per m3 of earth extending it in a layer of 10 cms. Of depth.

In the case of already constructed fields, the granule dispensing machine must be used in the following steps:
1. Trim the grass as short as possible, ensuring that the roots are exposed.
2. Drill holes and measure the Wide Rain with the installation machine specially designed for this purpose. The machine doses approximately three tenths of a gram in each hole. It is advisable to pass the machine in the same area two or three times to get the most suitable Wide Rain in each place.
3. Add to the surface about 5 grams of Wide Rain per square meter.
> Cover the area with a layer of approximately two centimeters of soil or composite.
>Irrigate with plenty of water to make the water load the Wide Rain , the following waterings will be twice each of the following two weeks. In future, spacing the dates between irrigations to 5 - 10 or 15 days as the grass requires.

NOTE 1: It is recommended to take this opportunity to apply insecticide and fertilizer if the grass requires it.
NOTE 2: Every time the lawn is watered, it is recommended to form "puddles" to achieve a proper recharge of the Wide Rain.



PLANTS AND POTS

Recommended amounts	
Floresy Shrubs	*200 grs per bush*
Pots	• *5 to 20grs. According to size.* • *In prepared soil 500 grs./m3*

The use of Wide Rain in planters and pots is a guarantee of growth and savings in water and time.

This is for the long duration that the product has hydrated which in some cases can exceed the life of the plant or the flower.

It is therefore an ideal product for large parks and / or public parks because it helps not only to reduce costs but also to maintain them.

In this case it is simple: the product is deposited under the roots of each flower or plant depending on the size of the plant.

Hydration can be done either by implanting the already hydrated product, or by flooding the pot.

In the case of plants or flowers very sensitive to excess water, the first option is recommended to avoid excess water at the first moment.

From that moment on, the person in charge of the garden or the florist must decide what is best: water half or twice as much in time.

WHERE TO USE

GARDENING

The use of Wide Rain in gardens is perfect to save money and time to those institutions or families who want to enjoy a good lawn without seeing surprises in your water bill especially when the heat begins to tighten.

It is also the ideal product for professionals who are engaged in the manufacture or installation for flower industry.

Using Wide Rain can not only save their costs but also can offer commercial advantages to their customers and new sales arguments to those who have decided to replace the natural grass with other material.

The application and amounts to be used are the same as in the case of golf courses and pots and flower beds.

ICE

To make ice with Wide Rain , simply put it in the freezer for 2 to 3 hours (depending on the equipment).

The benefits of ice with Wide Rain are:

Longer in frozen state
Does not generate water by thawing
Does not absorb odors, colors, or substances other than water
100% washable and
100% reusable
99% SAVING IN WATER

WHERE TO USE

CLEANING OF BUILDINGS

Wide Rain can also be used as an additive to remove animal waste and excrement by replacing the use of phosphate based products. It has several benefits:

- Greater comfort for the animals in their bed as it is drier.
- Reducing odors.
- Improving the fertilizer value of manure by improving the ammonia setting.
- More respect for the environment as it replaces phosphates.

STEPS BEFORE IMPLEMENTATION

The correct application of Wide Rain is very important and is considered as an integral part of the system; For this we must consider some variables such as:

Type of crop
Soil
Climate
Application during sowing and after sowing.

Based on these variables, the appropriate equipment is selected for its installation; In this case our company will train and provide technical advice for each specific production project.

The domestic installation is very simple and the application for large extensions is made with precision seeders.

Wide Rain should always be installed at the root of the plants, where they will absorb the water forming a moist environment at the disposal of the plants.

We guarantee our product under the following terms:

A) That it is applied under the supervision of the trained personnel of the company.
B) That the amount applied will be prescribed by the company.
C) That the percentage of irrigation, wil be indicated by the company.

NOTE: If the land is high in salt concentrate, the warranty is reduced to 5 years.

NOTE: ALL THE AMOUNTS MENTIONED HERE ARE ESTIMATED. THE EXACT QUANTITY TO BE APPLIED DEPENDS ON THE QUALITY OF THE WATER AND THE CHARACTERISTICS OF THE LAND. THEREFORE IT IS NECESSARY TO PERFORM TESTS TO KNOW THE QUANTITIES FOR THE DESIRED PERFORMANCE.

HOW TO USE IT

The first test is to know how much water can absorb Wide Rain. Although technically it is able to absorb 500 times, not all water is the same and the product only absorbs water. Therefore, we will have to evaluate it. Here we see how to do it.

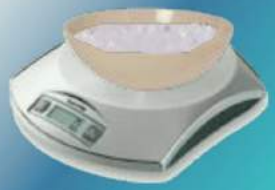
01

Pick up a pitcher

02

Put water in the jug, putting a measure.

03



Weigh 10 grams of Wide Rain

04

Put it in the water and leave it covered for 24 hours.

05

After this, remove the product from the jar. Put it on absorbent paper for 10 minutes and weigh again.

X times the increase
(up to 500 times)

We need to assess the type of soil. Just as there are many types of water, there are many types of soil. The purpose is to assess how much water the soil can absorb and retain. In this case, we need to measure the time the soil is wet with or without Wide Rain

01

X2

Collect 2 soil samples free of worms, stones, etc .

02

Dry in an oven according to protocol.

03

Mix 20 grams of Wide Rain with 60% of one of the soil piles.

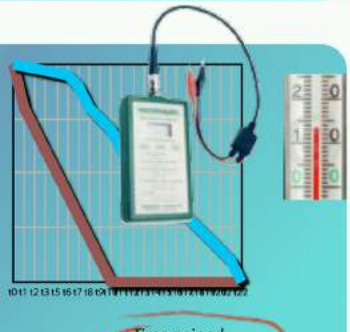
04

Prepare the 2 samples in a strainer trying to make the soil compact, as in normal conditions. Put 20% of soil in a strainer, on top of the whole mixture put Wide Rain. Once done, use the remaining 20% to cover the pile with Wide Rain.

05

Using a jug, VERY SLOWLY pour water into the other jug through the strainer. The amount per jug must be at least the number of times obtained from the previous test. Leave it for an hour. Then put the strainer with the soil in a bowl to begin the measurement.

After this, start measuring the humidity of both every 3/4 hours. Do that until the sample with Wide Rain is below the standards of your crop needs. The time difference is the amount of time you earn with Wide Rain. It is essential that you do this by replicating the local temperature and that the samples are not exposed to the sun



06

WIDE RAIN MODELS

Liters required per plant / year
-
Water from rain (lts)
×
α:(1- rain efficiency ratio) (%)
=
Water being irrigated (liters)

×
minus β: % of evaporation at warmest moment (%)
=
Level 1 of effective irrigation (liters)

×
minus γ: % of waste of water at driest moment (%)
=
Level 2 of effective irrigation (liters)

Water to be irrigated (lts)

Liters required per plant / year
-
Water from rain (lts)
×
α:(1- rain efficiency ratio) (%)

-
μ: first load of Wide Rain

+
ζ : % of waste of water with Wide Rain
+
ε: % of evaporation with Wide Rain (%)
=

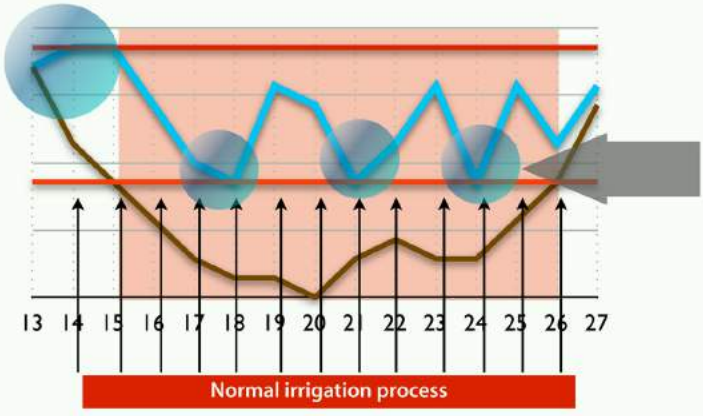
Water to be irrigated (lts)

HOW MUCH DO WE HAVE TO WATER

We know two things

1. The amount of water that Wide Rain absorbs → To calculate how much product we have to use
2. The time elapsed until the soil is below the required moisture levels → To calculate the frequency with which we have to water

Wide Rain Models



Water we have to use

SAND BIRD Group

مجموعة ساند برد

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