



SOLID RAIN is a fine granular potassium based powder which has been used successfully with farmers and home gardeners in Mexico and U.S. to address water shortages. With major benefits for agriculture, forestry, floriculture, and uses in hydroponics Solid Rain's use is widespread. This article is a summary of the main features of this product.

What is Solid Rain?

It's a biodegradable polymer that absorbs and retains large amounts of water and nutrients when applied to the plant. This retention of water allows planting crops during dry seasons, making the most of scarce water and nutrients available.

The chemical structure of the polymer allows each granule to expand and absorb up to 500 times its weight in water. Acting as a personal reservoir, this expansion of water allows between 95% and 99% of stored water is being taken by the root system of plants. This constant moisture ensures a stable and healthy growth of crops.

The hydration process is completely reversible, once the water is absorbed by the plant, the particle returns to its original size and is again ready to absorb. This process can be repeated many times up to 10 years.

The main advantages offered by Solid Rain:

- } Allows farming under extreme climate and poor soil.
- } Provides plants a constant exposure to moisture.
- } Improves the ventilation of these compacted soils.
- } Reduces irrigation cycles and amount of water used.
- } Reduces one third of percolation of nutrients in the soil.
- } Reduces the use of fertilizer by 30%.
- } Protects the environment from drought, erosion, desertification and water pollution.

Application Areas

The application fields are as diverse as their cultivation. For purposes of this article we have classified them into the following groups:

Transplanted Crops: These are crops that grow in nurseries and are then taken to a field. Examples of such crops are forest species, fruit trees, and any other plant that can be found in your local nursery. Transplantation leads to problems arising from water stress, causing high mortality rates or stunted growth. Adding Solid Rain substantially reduced mortality rates and eliminates problems of stress.

Hydroponics: These are crops grown on specially prepared substrates. We highlight within this group flowers and vegetable crops. Here, the main problems are the low moisture retention capacity of the flowers and vegetable crops, thus higher volumes of water and nutrients are used. The use of Solid Rain has led to water savings between 30% and 50% in greenhouse crops and has significantly increased the productivity of horticultural crops from 80% to 100%. Meaning less water and nutrients used while nearly doubling the production.

Field Crops: Open field crops are usually worked with heavy machinery. These crops can be irrigated or depend solely on rain. Their main problem here is the scarcity of water resources and the high cost of irrigation. With the correct dosage of Solid Rain there has been significant productivity gains in crops of at least 50% while watering up to 90% less.

Other applications: Transportation of bare root seedlings, mulching, hydroseeding, pastures, gardens, cuttings, bare root planting.

Features

Benefits to soil

The incorporation of Solid Rain in the soil improves soil structure and moisture holding capacity. This reduces leaching and increases water and nutrients for plants.

Minimize evaporation and percolation

Water loss by percolation or evaporation is no longer a problem with Solid Rain. The interval between irrigations can be doubled or even tripled. Additionally, the extra reserve of water in the soil prevents additional stress to the plant due to water shortages. This is especially important in areas or periods with low precipitation.

Fertilizer Support

Soluble fertilizers can work in combination with Solid Rain to provide a slow release to the plant. Solid Rain absorb, stores and release soluble fertilizer and nutrients almost as fast as water does. Thus reduce leaching losses of fertilizer (especially nitrogen) and other important nutrients.

However, the presence of salts reduces the holding capacity of Solid Rain, but is corrected by increasing the amount of product per liter of water. The main factors that affect retention are iron, phosphates and lime.

Instructions for use

The instructions for use of a Solid Rain are quite simple. It can be applied in dry or hydrated form.

For Plants, Pots, and Home Gardening



Step 1:	Step 2:	Step 3:
Mix Solid Rain (20grams) with 1 liter water.	Wait 10-20 minutes for water to crystalize.	Mix with soil.

For Lawns and Grasses



Step 1:	Step 2:	Step 3:
Mow the lawn down as much as you can.	Aerate the floor by making holes.	Apply Solid Rain and add a layer of topsoil. Water extensively for first use only.

Trees and Agriculture



With trees, you must apply on the absorbing roots on the plants. These roots are usually located where the leaves stop growing outwards, also known as the canopy. You must dig a hole around the canopy and apply the product there.



For Agriculture you apply the Solid Rain where the plow was originally ran through. You apply it in dry or hydrated form and you plant seed right in it once it is mixed with the soil.

Solid Rain is a highly efficient product and for this reason the doses are quite low, making them economically profitable for farmers. Generally, using 25 kilos per acre with a performance of up to 10 years.

Results

Forest species: Significant Reduction in mortality (levels close to 0) and reduced maintenance costs from farmers. The initial investment of Solid Rain is recuperated within the first two years while the product continues to serve up to 10 years. Dosage 20g per young tree transplants.

Fruit: Pears, particularly in very dry regions, mortality was reduced to zero. We also saw an 80% increase in fruit production. We also saw the first crop was harvested at 2 years. Doses recommended 100g-200g per tree.

Greenhouse crops. Reduction between 30% and 50% of the consumption of water and nutrients has been reported.

Gardening: Hundreds of people already use Solid Rain in their gardens and indoor plants in order to maintain healthy plants without worrying about watering. In shade plants we have recorded up to five months without water.

Grasses: From golf courses to home lawns, all areas have proven the benefits of Solid Rain. Since grass relies heavily on water, we recommend more than 25kg per acre, you can find the correct calculations at www.solid-rain.com/buy and use our online calculator.

Solid Rain is a degradable compound very safe for the environment and not classified toxic or hazardous by the European and American government agencies. Approved for use in organic production in Mexico (USA market still in application form).

Thank you,



Edwin Gonzalez
Vice President