

## Technical Data Sheet

### Superabsorbent Polymer (SAP) for Soil Conditioner -SANFRESH GT-800-

#### Product Description

SANFRESH GT-800 is a new superabsorbent polymer, designed as a soil amendment which improves water retention. SANFRESH GT-800 is based on POTASSIUM and will not exhibit any inhibitory effects on plant growth as SODIUM-based products do.

Application examples: Home gardening, turf, ornamental shrubbery, reforestation, etc.

Dosage recommendations:

- LAWNS AND SOD: 20-50 g/m<sup>2</sup> (178-446 lbs/acre)
- TREES AND SHRUBS: 2.5-5 kg/m<sup>3</sup>

#### Product Features

(1) SANFRESH GT-800 is a superabsorbent polymer that is particularly favorable for early plant growth, with a calcium absorption capacity that is approximately two-thirds that of previous products.

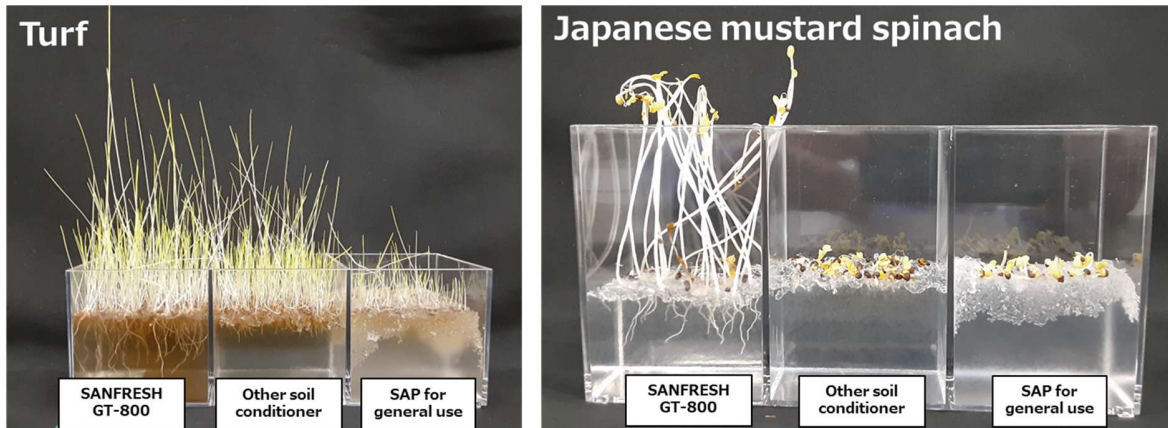
Table 1. Calcium absorption of each SAP product

Product Name	Absorbency of Calcium ion(mg/g)
<b>SANFRESH GT-800</b>	<b>2 8</b>
<b>Other soil conditioner</b>	<b>4 3</b>
<b>SAP for general use</b>	<b>1 3 5</b>

<Test Method>

Disperse 1 gram of SAP in 1 Litter of CaCl<sub>2</sub> aqueous solution with 200 mg/L calcium ion concentration. Stand it still under 25°C for 48 hours, and skim the supernatant. Measure the calcium level by atomic absorption spectrometry, and then calculate the calcium ion absorption volume by concentration difference before and after the addition of SAP.

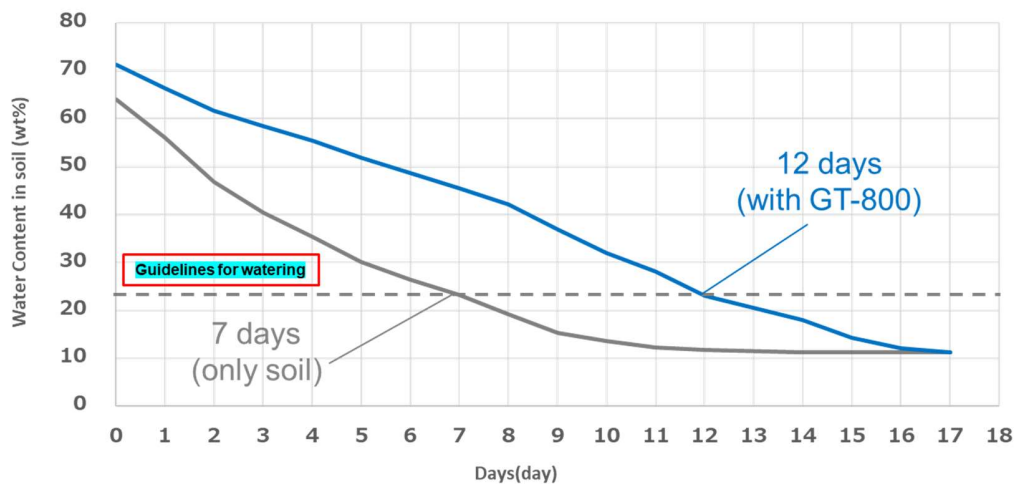
(2) SANFRESH GT-800 does not hinder plant growth.



<Test Method>

Prepare gel swollen 100 times with deionized water. Sow seeds on the gel. After 10 days, compare the growth situation.

(3) SANFRESH GT-800 improves the water retention properties of soil.



<Test Method>

Mix 5.0g/L of SANFRESH GT-800 with soil to a total of 2L. Fill this mixture in a pot. After that, pour 400g / day / pot (7 times in total). Keep it in thermo-hygrostat under 28°C and RH50%. Figure the water content in soil by checking the pot weight variation. The test is run until the water content reaches 25wt%. We also tested the soil without GT-800 at the same time as a blank. The soil moisture content at which wilting occurs was approximately 25% (confirmed with bell pepper seedlings) as a guideline for watering.

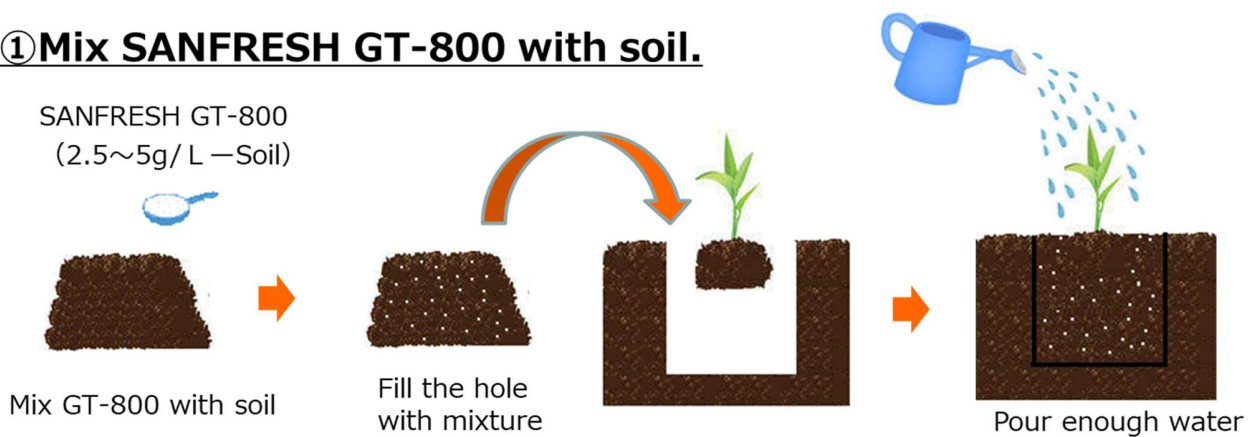
Typical properties of SANFRESH GT-800

Table 2. Typical properties of SANFRESH GT-800

Property	Value	Remarks
Appearance	White powder	-
pH	7.2	Measured with 0.1wt% deionized water dispersion
Apparent density	0.62g/mL	-
Mean particle diameter	800μm	-
Amount of water absorption	300g/g	Deionized water, JIS K 7223

Usage examples

**① Mix SANFRESH GT-800 with soil.**

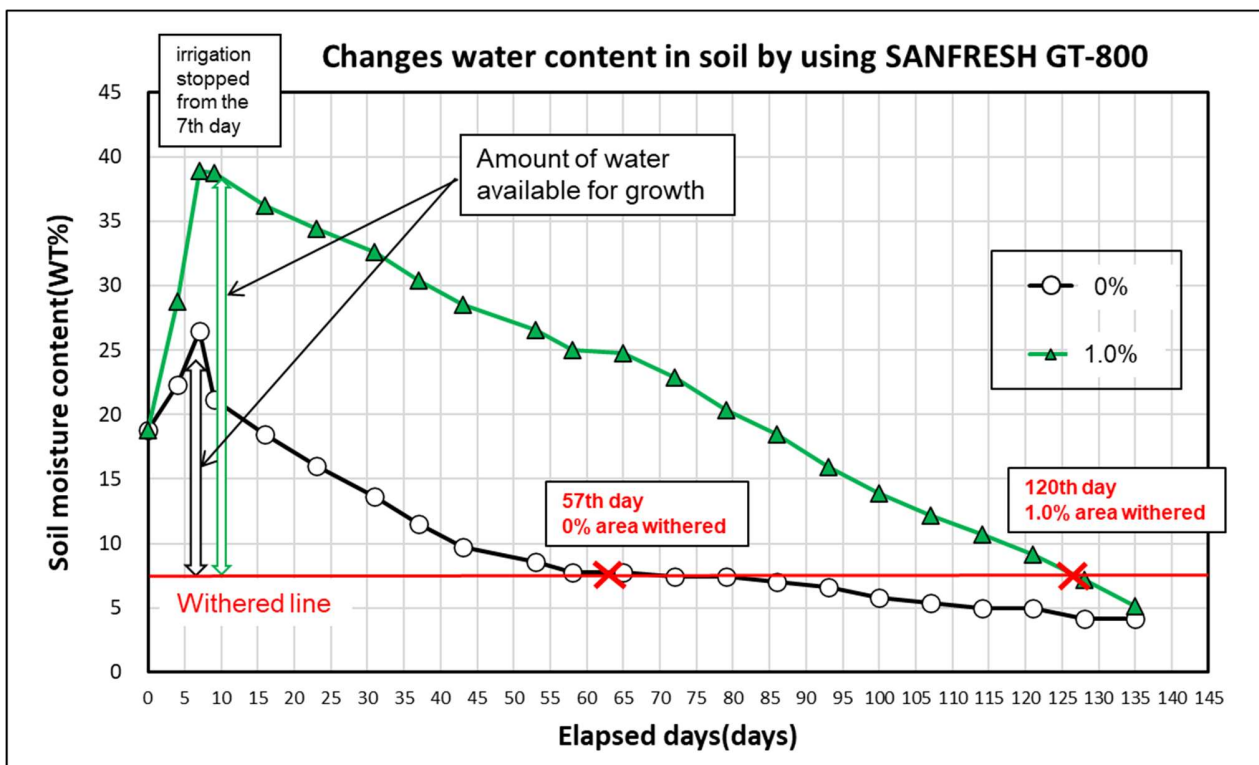
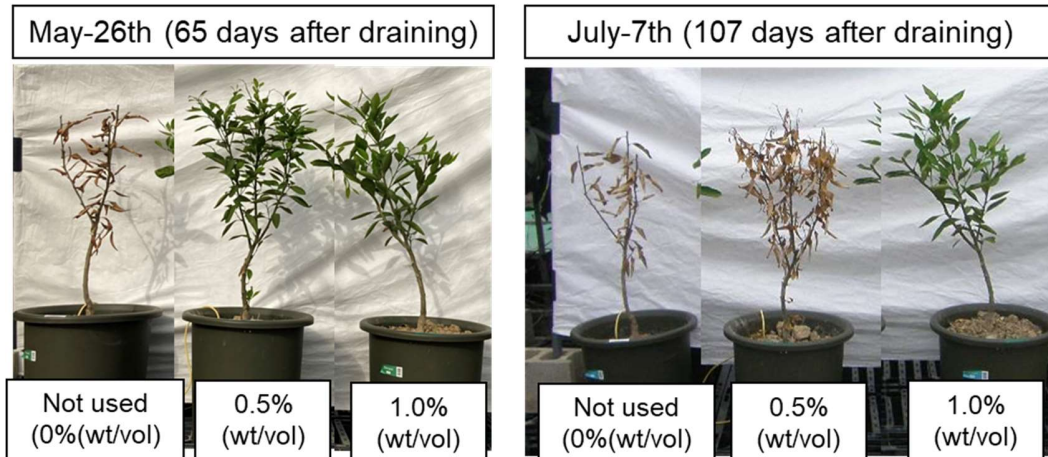


**② Prepare water-absorbing gel and mix it with soil.**



## Field test result (No irrigation test - Mandarin Orange)

Using SANFRESH GT-800, the time to wither could be extended up to twice as long.



#### <Test Method>

- (1) March-15th: Planting tangerine saplings (2nd year) in pots
- (2) Sufficient watering for 7 days after planting to allow the soil to absorb water (2L / day)
- (3) After March-22nd, the saplings were moved into the greenhouse. The irrigation was stopped and the number of days until the saplings withered and died (the number of days with water) was checked.



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