

# SUBSTRA GROW SCHEDULE



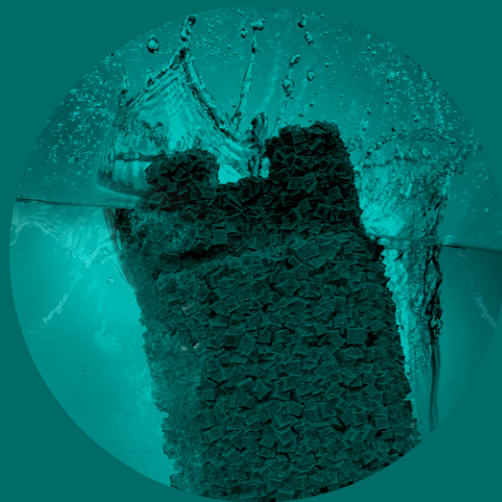
	Cultivation period in weeks	Light / Day in hours	Substra Vega ml A/10 litres ml B/10 litres	Substra Flores ml A/10 litres ml B/10 litres	PK 13/14 ml/10 litres	EC + in mS/cm		
GROWTH	Start / rooting (3 - 5 days) - Water the substrate.	< 1	18	10 - 20	-	-	0.7 - 1.1	VEGETATIVE PHASE
	Vegetative phase I - Plants develop in volume.	0 - 3 <sup>1</sup>	18	15 - 25	-	-	0.9 - 1.3	
FLOWERING	Vegetative phase II - Up to growth stagnation after fructification or appearance of the formation of flowers.	2 - 4 <sup>2</sup>	12	20 - 30	-	-	1.2 - 1.6	GENERATIVE PHASE
	Generative Period I - Flowers or fruits develop in length. Growth in height achieved.	2 - 3	12	-	25 - 35	-	1.4 - 1.8	
	Generative period II - Development of the volume (breadth) of flowers or fruit.	1	12	-	25 - 35	15	1.5 - 1.9	
	Generative Period III - Development of the mass (weight) of flowers or fruit.	2 - 3	12	-	15 - 25	-	1.0 - 1.4	
	Generative Period IV - Flowers or fruit ripening process.	1 - 2	10 - 12 <sup>3</sup>	-	-	-	0.0	

- <sup>1</sup> This period varies depending on the species and number of plants per m<sup>2</sup>. Mother plants remain in this phase until the end (6 - 12 months).
- <sup>2</sup> The changeover from 18 to 12 hours varies depending on the variety. The rule of thumb is to change after 2 weeks.
- <sup>3</sup> Reduce hours of light if ripening goes too fast. Watch out for increasing relative humidity.

EC: EC+ value is based in mS/cm when EC water = 0.0 at 25°C, pH 6.0. Add the EC of the tap water that is used to the recommended EC! The EC total in the example is with tap water with an EC of 0.4.  
pH: Recommended pH is between 5.2 and 6.2. Adding pH- can increase EC.

The guidelines in the table aren't an iron law, but can help novice growers to develop a sophisticated fertilization strategy. The optimum fertilization strategy is further determined by factors such as: temperature, humidity, plant species, root volume, moisture percentage in substrate, water dosage strategy, etc.

Make your personal feeding grow schedule at [canna.co.za](http://canna.co.za)



# CANNA SUBSTRA



With CANNA SUBSTRA you can grow with precision  
For usage on inert, run to waste systems like rockwool, perlite soilless mixes and clay pebbles • CANNA SUBSTRA comes in a hard and soft water version  
Easy to use for growers of all kinds

## About CANNA

CANNA is the producer of nutrients and growing mediums for the cultivation of fast growing plants. CANNA was founded in the Netherlands in the early 90s. All CANNA products are scientifically tested before being placed on the global market. Passion and love for plants and helping growers achieve the most optimal result characterizes CANNA's philosophy.

The key to CANNA's success is the quality and consistency of the products. CANNA believes in sharing of knowledge and experience to help growers. CANNA's passionate scientists put years of extensive research in each product which has resulted in formulas that guarantee that everyone, including inexperienced growers, achieve amazing results!

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## CANNA SUBSTRA

CANNA SUBSTRA is the nutrient for cultivating plants in systems using inert substrates. In these systems the drainage water is not returned to the nutrient tank but drains away. An advantage of these systems is that plants get fresh nutrients at each feed. This minimizes the risk of diseases.

An inert substrate means that the substrate does not add or take nutrient elements from the nutrient solution, so you can grow with precision. These systems are called run-to-waste or open hydroponic systems. These substrates include rockwool, clay pebbles, perlite and non-fertilized soilless mixes.

### Hard water or Soft water?

'Hard' and 'soft' are terms used to describe the quality of many water sources. Hard water has a high mineral content, usually originating from magnesium, calcium carbonate, bicarbonate or calcium sulphate, which can cause hard, white lime scale to form on surfaces and growing equipment. Hard water may also have a high alkalinity and a high pH, meaning that considerably more acid is required to lower the pH in the hydroponic system to ideal levels.

While hard water sources do contain useful minerals (Ca and Mg), these can upset the balance of the nutrient solution and make other ions less available for plant uptake. Smaller growers can counteract this by making use of one of the many 'hard water' nutrient products on the market. Soft water, by comparison, is a low mineral water source. Often rainwater is 'soft'. Also, soft water is typically sourced from surface water – rivers, streams, and lakes – and has not been exposed for long periods to mineral bearing rock formations. It can also come from treated water (Reverse Osmosis), where most ions have been removed or replaced with single valance atoms such as sodium by water softening equipment.

### Substra Hard Water or Soft Water?

The fertilizers in the CANNA SUBSTRA range are available in two versions, for hard water and for soft water. If the hardness of your water is 60-80 mg/L available Calcium or more, use the hard water variant. If the hardness of your water is less than this, then the soft water variant is recommended.

## CANNA Substra Vega A&B

CANNA Substra Vega A&B is a two-part nutrient for plants during the growing phase. CANNA Substra Vega A&B Soft water is easy to use, dissolves directly and is suitable for growing with automatic "run to waste" irrigation systems. It is specially developed for growing in inert substrates. In the beginning of the growing phase, the plant lays the foundation for its eventual yield.



SOFT WATER



HARD WATER

### CANNA Substra Vega A&B Soft water

NK Fertilizer solution  
NK 5-6 with Ca, Mg and micro-elements

CANNA Substra Vega A Soft water  
Reg No. B 5973 Act. No. 36 of 1947  
Group 2 fertilizer

CANNA Substra Vega B Soft water  
Reg No. B 5975 Act. No. 36 of 1947  
Group 2 fertilizer

### CANNA Substra Vega A&B Hard water

NK Fertilizer solution  
NK 5-6 with Ca, Mg and micro-elements

CANNA Substra Vega A Hard water  
Reg No. B 5974 Act. No. 36 of 1947  
Group 2 fertilizer

CANNA Substra Vega B Hard water  
Reg No. B 5979 Act. No. 36 of 1947  
Group 2 fertilizer

## CANNA Substra Flores A&B

CANNA Substra Flores A&B is a two-part nutrient for plants during the flowering phase. CANNA Substra Flores A&B is easy to use, dissolves directly and is suitable for growing with automatic "run to waste" irrigation systems. Do not mix A&B concentrate directly; Insoluble combinations will occur which the plant cannot take up.



SOFT WATER



HARD WATER

### CANNA Substra Flores A&B Soft water

NPK Fertilizer solution  
NPK 5-1-7 with Ca, Mg, S

CANNA Substra Flores A Soft water  
Reg No. B 5977 Act. No. 36 of 1947  
Group 2 fertilizer

CANNA Substra Flores B Soft water  
Reg No. B 5980 Act. No. 36 of 1947  
Group 2 fertilizer

### CANNA Substra Flores A&B Hard Water

NPK Fertilizer solution  
NPK 5-1-7 with Ca, Mg, S

CANNA Substra Flores A Hard water  
Reg No. B 5976 Act. No. 36 of 1947  
Group 2 fertilizer

CANNA Substra Flores B Hard water  
Reg No. B 5981 Act. No. 36 of 1947  
Group 2 fertilizer